The Second Hunterian Lecture

ON THE

RESULTS OF THE SURGICAL TREATMENT OF DISPLACED SEMILUNAR CARTILAGES OF THE KNEE.

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BY

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MR. PRESIDENT AND GENTLEMEN,—When I was honoured with the request to give the Hunterian Lecture I accepted the task gladly because it gave me an opportunity of laying a tribute of respect at the feet of John Hunter, the great master to whom every scientific surgeon owes a debt of gratitude which is none the less real because it is somewhat hidden by the lustre which the work of Pasteur and of Lister has shed over our art.

HISTORICAL.

I felt it was desirable to choose a subject which should be at one and the same time Hunterian and yet capable of treatment upon modern lines, and for this reason I chose "Displacement of the Semilunar Cartilages of the Knee and the Results of Surgical Treatment." The subject is a part of the larger question of the diagnosis and treatment of loose bodies in joints, and this question, we know, occupied Hunter's thoughts during the last years of his life. His observations on loose cartilages found in the joints, and more especially in the knee, are set out in a paper by his unworthy brother-in-law, Everard Home, in the *Transactions of a Society for the Improvement of Medical and Surgical Knowledge* (vol. i, p. 229). This communication was made in the year 1793, and John Hunter died on October 16th, 1793, "on the same day, and perhaps hour, that the unfortunate Marie Antoinette, Queen of France, was beheaded in Paris." It is probable, therefore, that Everard Home's paper embodies Hunter's latest thoughts, which we now know to be incorrect because they were based upon an imperfect pathology. "Hunter was led to consider the formation of loose cartilages found in joints," says Home, "in the course of his experiments and observations instituted with a view to establish a living principle in the blood." As a result of his experiments Hunter was led to believe that "extravasated blood, when rendered an organized part of the body, can assume the nature of the parts into which it is effused; and consequently the same coagulum which in the abdomen formed a soft tumour, when situated on a bone or in the neighbourhood of bone forms more commonly a hard one. The cartilages found in the knee-joint, therefore, appeared to him to originate from a deposit of coagulated blood upon the end of one of the bones, which had acquired the nature of cartilage and had afterwards been separated. This opinion was farther confirmed by the examination of joints which had been violently strained or otherwise injured, where the patients had died at different periods after the accident. In some of these there were small projecting parts, preternaturally formed, as hard as cartilage, and so situated as to be readily knocked off by any sudden or violent motion of the joint. This opinion Mr. Hunter maintained for many years in his lectures, and his arguments in favour of it are so consonant to the general laws by which the operations of the animal machine are regulated as scarcely to require further evidence." We know now that Hunter's conclusions are incorrect because his premisses were faulty, but it needed a more perfect microscope and the work of George Rainey (1801–84) at St. Thomas's Hospital before the real pathology was known.

Hunter dealt solely with loose cartilages in joints. His work was carried a step further by William Hey (1736–1819), the great Leeds surgeon, who had been a pupil at St. George's Hospital during the most fruitful period of Hunter's life. Writing in 1803, Hey says: "The existence of loose cartilaginous substances in the joint of the knee has been noticed by several modern authors. The method of extracting these substances and of treating the patient after the operation has been described by Mr. (William) Bromfield (1712–92), and by Mr. (Edward) Ford in the fifth volume of *Medical Observations and Inquiries*. This operation is considered by those authors as the only method of cure. But, although it has been attended with success, yet, as the late Medical Society has observed, it has sometimes been followed with violent inflammation fever, and death itself." Hey, therefore, recommended the use of "a well-fitting kneecap," observing—very wisely, if the state of surgery in his time be remembered—"it deserves a trial before the dangerous operation of opening the joint is attempted."

It is clear, therefore, that the question of loose bodies in joints and their treatment was exercising the minds of surgeons in London during the last quarter of the eighteenth century, more especially at St. George's Hospital, where both Hunter and Bromfield were surgeons. But Hey went a step further than those who had taught him. He recognized that there was a condition producing symptoms which resembled those caused by a loose cartilage in the knee-joint. This condition had hitherto remained undescribed, and he speaks of it as an "internal derangement of the knee-joint." Mr. Hey points out that the knee "joint is not infrequently affected with an internal derangement of its component parts; and that, sometimes, in consequence of trifling accidents. The disease is indeed now and then removed as suddenly as it is produced by the natural motions of the joint without surgical assistance, but it may remain for weeks or months and will then become a serious misfortune, as it causes a considerable degree of lameness. I am not acquainted with any author who has described either the disease or the remedy. I shall therefore give such a description as my own experience has furnished me with, and such as will suffice to distinguish a complaint which, when recent, admits of an easy method of cure.

"The disorder may happen either with or without contusion. In the latter case it is readily distinguished. In the former the symptoms are equivocal till the effects of the contusion are removed. When no contusion has happened, or the effects of it are removed, the joint with respect to its shape appears to be uninjured. If there is any difference from the usual appearance, it is that the ligament of the patella appears rather more relaxed than in the sound limb. The leg is readily bent or extended by the hands of the surgeon, and without pain to the patient; at most the degree of uneasiness caused by this flexion and extension is trifling. But the patient himself cannot freely bend nor perfectly extend the limb in walking; he is compelled to walk with an invariable and small degree of flexion. Though the patient is obliged to keep the leg thus stiff in walking, yet in sitting down, the affected joint will move like the other.

"The complaint which I have described may be brought on, I apprehend, by any such alteration in the state of the joint as will prevent the condyles of the os femoris from moving truly in the hollow formed by the semilunar cartilages and articular depressions of the tibia. An unequal tension of the lateral or cross ligaments of the joint, or some slight derangement of the semilunar cartilages may probably be sufficient to bring on the complaint. When the disorder is the effect of contusion, it is most likely that the lateral ligament on one side of the joint may be rendered somewhat more rigid than usual, and hereby prevent that equable motion of the condyles of the os femoris which is necessary for walking with firmness."

Hey then gives a detailed account of five cases which he had seen and treated, of which the first was clearly due to a slipping of the external semilunar cartilage; the second, third, and fourth were examples of simple displacement of the internal semilunar cartilage; whilst the fifth, produced by a fall from a horse, was an instance of a torn cartilage. Each of these cases was treated by manipulation, which is described in the following words: "I placed my patient upon an elevated seat, which had nothing underneath it that could prevent the leg from being pushed backward towards the posterior part of the thigh. I then extended the joint by the assistance of one hand placed just above the knee, while with the other I grasped the leg. During the continuance of the extension I suddenly

moved the leg backwards that it might make as acute an angle with the thigh as possible. This operation I repeated once, and, whatever may be thought of my theory, my practice proved successful."

Hey never operated upon any patients with displaced cartilage, and he erred in not following up his cases, for it is certain that if he had done so he would have found his treatment insufficient, because the condition is recurrent, and the mere unlocking of the joint when it has become fixed will only cure in a very small proportion of the most simple cases, unless it is assisted by prolonged rest.

Displacement of the semilunar cartilages of the knee did not excite much attention during the Regency and early Victorian periods. Violent athletic exercises were not indulged in when cricket was played in top hats and football had not yet become a science. The wealthier classes hunted and rode; reading men at the universities walked—the constitutional grind—and talked as they did so; the medical student and man about town played billiards and frequented his favourite bar. Young ladies only took a minimum of outdoor exercise and considered that it was indelicate to have an appetite. They lounged and sewed, read novels and fainted on the smallest provocation. Displacement of the semilunar cartilages of the knee, therefore, was of rare occurrence in a race who hardly ever put any severe strain upon their joints. The rapid spread of cricket, football, cycling, and hockey, with the consequent glorification of athleticism in all its forms, has been attended with a large increase in the number of joint injuries, not only in our public schools, but also amongst the class from whom our hospital patients are drawn. Displacement of the semilunar cartilages has formed such a rapidly increasing proportion of these injuries that I have thought it worth while to call your attention to the subject this evening.

FREQUENCY.

The records of St. Bartholomew's Hospital show that the knee-joint has been opened 262 times during the last seventeen years in patients who came complaining that they had experienced painful locking of the joint after an injury; 208 of these patients were men and 54 were women. The number of cases has increased steadily from 6 males in 1892 to 23 males and 6 females in 1907, as is apparent from the following table; and I may here express my thanks for the readiness with which my surgical colleagues at St. Bartholomew's Hospital have allowed me to use the notes of the patients upon whom they had operated.

TABLE OF CASES ADMITTED INTO ST. BARTHOLOMEW'S HOSPITAL DURING THE YEARS 1892–1908 FOR ARTHROTOMY OF THE KNEE.

Year.	Male.	Female.	Total.	Year.	Male.	Female.	Total.
1892	6	0	6	1901	10	2	12
1893	6	1	7	1902	17	5	22
1894	7	2	9	1903	11	1	12
1895	5	5	10	1904	12	4	16
1896	7	4	11	1905	18	3	21
1897	8	2	10	1906	19	5	24
1898	13	3	16	1907	23	6	29
1899	13	4	17	1908	18	2	20
1900	15	5	20	Total	208	54	262

I sent a postcard to each of these patients asking them to reply to the following five questions:

1. Has there been any return of the symptoms for which the operation was performed?
2. Is the knee as strong as the other?
3. Can it be straightened and bent as well as the opposite one?
4. Is there any change in its shape or appearance?
5. Is it ever painful?

Two hundred and sixty-two letters of inquiry were sent out, and 128 postcards were received in reply. Subsequent reference to the ward notes at St. Bartholomew's Hospital showed that 89 of these patients had been operated upon for a loose or torn semilunar cartilage, and 1 had subsequently had his leg amputated for malignant disease, making 90 cases in all.

Seven of the 90 cases had had a displacement or injury to the external semilunar cartilage; the remaining 83 had sustained an injury to the internal cartilage.

Twenty were found to have loose cartilages—*Gelenkmause*—in their knees.

Eight were admitted with the symptoms of internal displacement, but for various reasons were not operated upon.

Six had pieces of thickened synovial membrane removed, the fibro-cartilages appearing healthy.

Two were found to have chronic inflammation of the articular cartilages without any injury to the semilunar cartilages.

Two patients had their knees explored for pain and locking of the joint without the discovery of anything to account for the symptoms.

CAUSES.

An examination of the ward notes of the 90 patients who were found by operation to have suffered some change in the semilunar cartilages shows that the cause was nearly always an injury. One case, however, was idiopathic, and proved to be a pathological curiosity. The specimen is thus described in the Catalogue of the Pathological Museum at St. Bartholomew's Hospital:

No. 569 f.—The half of a left knee-joint showing a sarcoma, apparently originating in the synovial membrane and filling the pouch underneath the quadriceps extensor muscle. The whole joint is surrounded by an envelope of grey friable growth intersected by fibrous septa. Embedded in this tissue on the anterior aspect of the joint lies the shell of the patella. The blue glass rod indicates the line of this extension. The crescentic excavation seen upon the anterior articular surface of the femur represents an area in which the neoplasm has destroyed the bone. A tapering prolongation of the growth passes backwards between the articular surfaces of the femur and tibia, and has practically destroyed the articular surface of the latter. On the outer aspect of the specimen part of the capsule of the joint has been removed to expose the growth beneath it.

Microscopic examination shows that the tumour is a spindle-celled sarcoma.

Removed by amputation from a man aged 31 years. At the age of 22 he was admitted to the hospital on account of a pain in the left knee and occasional locking of the joint, to which he had been subject for seven months. The anterior three-quarters of the left internal semilunar cartilage was removed, but the knee remained stiff. Two months later the knee was wrenched under an anaesthetic, but without benefit. Since the date of this operation—that is, for nine years—the knee had remained stiff and swollen. A second operation was undertaken five years after the first. The scar of the old wound was explored, and some pieces of cartilage were removed from beneath it. For twelve months the patient had noticed a rapid increase in the size of the joint, and suffered much pain in it. A skiagram taken three months before the amputation showed that the patella was pushed forwards but was not involved. A later skiagram showed the excavation of the patella.

The injury is nearly always the result of a sudden movement of rotation whilst the knee is in a state of partial flexion. Football, cycling, and gymnastics appear to be the most common causes of the accident, which is, therefore, most common in young adults. Direct injury to the knee, as in striking it against a gate or falling through the rungs of a ladder, are also given as causes by some of the patients, whilst in a few cases the actual cause has been so slight as to pass unrecognized.

SYMPTOMS.

The injury is followed at once by a painful locking of the joint, which is usually sufficient to bring the patient to the ground. This painful locking may be only temporary, when the patient is able to limp home, or the joint may remain fixed in a state of flexion or extension for several days, or until it is set free by skilled manipulation. There is always some synovitis, and it is characteristic of the lesion that it is recurrent.

DIAGNOSIS.

The diagnosis, therefore, should not be difficult, but an examination of the notes shows that the condition is usually considered and treated as a sprain rather than as an injury to the semilunar cartilages. The patient is put to bed in the more severe cases, and a water dressing is applied, but no attempt is made to reduce the displaced cartilage. The synovitis subsides for a time, but the knee

remains stiff or weak. A back-splint or a plaster-of-Paris case is ordered, and the patient is able to move about in comfort so long as the leg is kept straight, but the symptoms return with greater or less severity when the apparatus is discarded. The patient and his doctor then realize that the injury is more than a sprain, and that some active treatment must be adopted if the limb is to be made useful again. The recurrence of the symptoms, and especially the painful locking of the joint, is a marked sign of a displaced or torn semilunar fibro-cartilage, and the occurrence of these signs is a great help in the diagnosis. A sprain leaves a synovitis and weakness of the joint, but it does not cause repeated immobility with intervals of comparative or perfect freedom of movement. Here are one or two of the cases chosen at random to illustrate these points:

ILLUSTRATIVE CASES.

Case 1.

R. W., aged 28, says that his right knee gave way under him whilst vaulting in a gymnasium; two years ago he was kicked by a horse on his right knee. The knee has locked three times in his sleep since the last accident, and has had to be pulled straight; it then goes into place with a click. On more than one occasion it has let him down in the street, and the leg is then fixed in a state of full extension. Examination of the joint after arthrotomy showed that the anterior portion of the internal semilunar cartilage was loose. It was removed, and four years afterwards the patient replies that he has a perfectly strong and useful joint, which is painless.

Case 2.

T. G. N., aged 19, ricked his knee at a gymnasium eighteen months before admission. He was laid up for one month. The joint has locked about half a dozen times since the accident; on each occasion it has remained flexed for about ten minutes. The internal semilunar cartilage was found to be detached at its anterior end, the loose extremity being doubled backwards into the joint. The loose cartilage was removed. Six years later the patient expressed himself absolutely satisfied with the result.

These cases are satisfactory, and were straightforward from beginning to end. The following are examples of a more rare condition:

Case 3.

E. G., aged 19, was admitted complaining that his right knee had suddenly bent under him and had become locked whilst he was in the act of turning round quickly. He had previously wrenched it on two or three occasions whilst playing football. The joint became locked in September, 1900, and remained bent and immovable until it was reduced under an anaesthetic three days later. A similar accident happened in November, 1900, and an anaesthetic was again necessary, and in June, 1901, chloroform had to be given to release a third attack. Flexion of the joint, as in kneeling, led to fixation of the joint. Examination revealed a tender spot on the inner side of the knee over the head of the tibia, and the joint was in a state of synovitis. At the operation the inner border of the semilunar cartilage was found to be torn away, so that it rested upon the outer edge of the fibro-cartilage. The patient writes in 1910: "Am pleased to say that my knee is as strong as my other one, and is never painful."

The next two cases show that, unless care is taken to examine the semilunar cartilage, it may be insufficiently removed and the symptoms may recur after an operation has been performed:

Case 4.

C. L., aged 22, wrenched his knee at football in September, 1900, and an operation for removal of the internal semilunar cartilage was performed in November, 1900. The knee became troublesome again in February, 1901, and it locked once or twice. A further examination was made on May 18th, and two strips of the internal semilunar cartilage were removed. It is probable, therefore, that the cartilage had been torn horizontally into three strips. I have been unable to obtain further tidings of this patient.

Case 5.

D. J., aged 21, was admitted in January, 1898, on account of a painful locking of his knee, which he had wrenched at football. The joint was examined and a part of the internal semilunar cartilage was removed. The symptoms recurred three months later, and the joint gradually became flexed and could not be straightened. The patient was readmitted to the hospital in December, 1900, and a crescentic piece of the internal semilunar cartilage was removed, showing that the original tear had been circumferential. In 1910 the patient replied that the joint is still painful and not as strong as the other.

MORBID ANATOMY.

Examination of the notes of the cases appears to show that the severity of the injury bears no direct relation to the condition in which the cartilage will be found at the subsequent operation. In the simplest cases the wrenching of the joint may produce a mere slipping of the cartilage due to a tearing of the fibres of the coronary ligament which attaches it to the head of the tibia. The slipping may vary from a simple loosening of the central portion of the cartilage—the extremities remaining attached—to a complete displacement inwards of the entire cartilage. When the ends of the cartilage remain attached the movements of the knee are hampered by a sense of insecurity, but there is no actual locking. A displacement of the cartilage at its anterior extremity without actual tearing may cause a temporary fixation of the joint, which the patient soon learns the trick of relieving for himself. These cases, therefore, do not come under the cognizance of the surgeon, for the patient continues his occupation, only complaining to his friends that he has got a weak knee, which sometimes lets him down.

In other cases the semilunar cartilage may be torn across, the injury usually taking place in the anterior third. The torn ends may lie flat and in good apposition when there is no more inconvenience than if the cartilage had merely slipped. Some day, however, a slight additional wrench leads to a displacement of the ends which had previously lain in apposition, and there is then so much interference with the action of the joint that the aid of the surgeon is soon invoked.

The torn ends of the cartilage are sometimes twisted upon themselves, so that one or other piece lies vertically, instead of horizontally, in the joint. Such a specimen is preserved in the museum of the University College Hospital, and it is the only preparation I know of which shows the *post-mortem* appearances of a torn and displaced semilunar fibro-cartilage in the knee. Mr. Godlee described the specimen in the *Illustrated Medical News* (September, 1888, p. 9) in the following words: "The circumference of the fibro-cartilage has been torn away from its attachment to the capsule of the joint, and it now occupies a vertical position in the intercondyloid fossa. The displacement must have occurred some time before the death of the individual, for the fibro-cartilage remains stiffly in its present position, and appears to have somewhat shrunk from its natural size; it is also obviously flattened by the pressure of the inner part of the condyle. At the same time the inner surface of the capsule is smooth, and it will be observed that the cartilages on the femur and tibia show no signs of alteration, except a little change due to chronic rheumatic arthritis, which, it should be observed, occurs at a point on the tibia which, under ordinary circumstances, would have been protected from friction by the semilunar cartilage." (See figure, p. 64.)

The specimen was obtained by Professor G. D. Thane, F.R.C.S., from the anatomical stores at University College, so that, unfortunately, no history of the clinical symptoms is obtainable. Commenting on the appearances presented by this preparation, Mr. Godlee says: "Looked at from an anatomical point of view, it would seem most likely that the external and not the internal fibro-cartilage should be the one to slip; for it will be remembered that the cartilages are retained in position chiefly by means of their attachment to the capsular ligament of the joint. Now, the shape of the external cartilage being that of a large segment of a small circle, as compared with that of the internal, which forms a small segment of a larger circle, it follows that the anterior and posterior extremities of the external reach a position near the centre of the joint, being attached in fact immediately in front of and behind the two pieces of the spine on the upper surface of the tibia. The external cartilage has thus a much less extensive attachment to the capsule of the joint than the internal, and is consequently much more movable.

"The sheath of the tendon of the popliteus again communicates, often in two places, with the capsule of the joint beneath the external semilunar cartilage, that communication which is constantly found being to the outer side, that which occasionally occurs at the back of the joint. This greatly diminishes the extent to which the cartilage is attached to the capsule. It is also possible that this cartilage is liable to irregular movements from the fact that the tendon of the popliteus muscle has a not inconsiderable attachment to it. But be this as it may, it appears actually to be the internal which most usually suffers displacement—that is, if we are to accept all recorded cases as authenticated, a position I should be

very sorry to occupy when it is remembered how readily loose cartilages in joints, strains, etc., may be mistaken for this not easily diagnosable condition.

"How the accident occurs is very much a matter of conjecture. The most common form of injury appears to have been a blow upon the toes when turned outwards, or a twist inwards of the foot, but it is probably produced in a number of different ways. I would merely point out how comparatively free is the movement of the tibia laterally over the condyles of the femur when the joint is flexed, especially in loose-jointed people, and that this movement of the tibia is more free towards the inner than towards the outer side. Of course, the cartilages move with the tibia, and it seems to me quite comprehensible that when the external cartilage is drawn already well forward towards the inner part of the outer condyle of the femur a sudden jerk or twist might force it still further and cause it to pass actually outside the circumference of the cartilage—that is, either in front of or behind it. This would be very likely to rupture the attachment of the capsule and to drive the cartilage into the position" shown in the specimen.

Mr. Robert Jones[1] has recently made a careful study of derangements of the knee-joint, and he points out that "the displacement or fracture of the internal semilunar cartilage can only take place when the internal lateral ligament is stretched or ruptured. This allows a separation of the joint surfaces and a slipping inwards of the cartilage; as the separate bones snap back the cartilage is nipped and the knee is fixed in a very painful manner. The pain and effusion can be ascribed to injury of the synovial membrane with which the cartilages are covered."

The injuries sustained by the semilunar cartilages, however, are not always simple displacements and laceration, for the cartilage may be torn into so many fragments that it has to be removed piecemeal, or, more remarkable still, it may be literally torn into ribbands, as in the cases whose notes have already been read, and so long as the pieces lie side by side and do not overlap or project, the more complicated injuries do not necessarily give rise to troublesome symptoms.

Fig. 1.—Dislocation of external semilunar fibro-cartilage of knee. A, External semilunar cartilage; B, outer part of capsule, from which the cartilage has been torn; C, patch of erosion from chronic rheumatic arthritis on condyles of femur; D, patch of erosion from chronic rheumatic arthritis on that part of the tibia on which the semilunar cartilage originally lay; E, internal semilunar cartilage in the natural position; F, transverse ligaments; G, tendon of popliteus muscle; H, anterior crucial ligament; K, posterior crucial ligament; L, infrapatellar mass of fat; M, tendon of triceps extensor cruris. (From a drawing kindly lent by Mr. Rickman J. Godlee, F.R.C.S.Eng.)

It has already been pointed out that an examination of the records of many cases shows that the amount of violence causing the displacement is no guide to the condition in which the cartilage will be found. A simple wrench or twist is found in some cases to have produced complicated lacerations, although in theory they should only have led to a simple displacement. The signs, therefore, are of much greater importance to the surgeon who is called upon to decide whether or not an operation is desirable than the history of the accident, although it is often difficult to persuade the patient or his medical adviser that such a trivial accident as a slip on the stairs or on the polished floor of a ballroom can produce a more serious laceration of the semilunar cartilage than a wrench in the football field. It is quite impossible, too, to forecast the amount of pain which follows upon these injuries. I thought at first that the pain would be most marked when the cartilage was torn so that the edges overlapped, but examination of the notes showed that this is not necessarily the case. The locking of the joint was sometimes quite painless, even when the cartilage was afterwards found to be lying edgeways in the joint, whilst in other cases the pain was excessive when there was only a slight displacement of the cartilage. But pain is wholly subjective, and it is quite possible that a healthy young football-player does not feel pain more acutely than an ardent believer in Christian Science. The limitation of movement is sometimes in flexion and sometimes in extension, the limitation being usually more marked when the cartilage is torn and the edges are displaced than where it has merely slipped.

DIFFERENTIAL DIAGNOSIS.

The mistakes which are likely to be made in diagnosis are well exemplified in the notes of the 128 patients whose cases I have examined, and whose knees had been explored for painful locking of the joint. It should be remembered that each of these patients came under the observation of a highly skilled surgeon, who made his diagnosis carefully and after personal examination of the joint in the presence of numerous medical students. In spite of this 20 of the cases proved at the time of the operation to be suffering from nodules of loose hyaline cartilage, and not from injury to the semilunar fibro-cartilage. I am interested, in reading the notes of these 20 cases, to observe how frequently the patient dated the onset of his symptoms to an injury of the joint on a given day, just as he would have done had he displaced one of his cartilages. It seems, therefore, as if an injury to the joint may sometimes be the starting point of a series of changes in the synovial membrane, which lead ultimately to the formation of a "*Gelenkmaus*." These changes may lead to a multiplication of Rainey's corpuscles in the synovial fringes or to exfoliation of portions of the articular cartilages themselves — sometimes of the femur, more rarely of the patella, most rarely of the tibia. The diagnosis is easy when the loose cartilage can be felt within the joint, but when it is imperceptible and the patient dates all his symptoms to an accident on a given day it is pardonable to diagnose the condition as being due to a change in the interarticular cartilage. As a general rule, when a semilunar cartilage has been torn the interference with the movements of the joint is well marked from the time of the accident, whilst in loose hyaline cartilages following an accident there is generally an interval during which the joint appears normal after the effects of the sprain have passed off, and the locking only becomes a marked feature at a much later period. In an injured semilunar cartilage there is often a tender point to be elicited by pressure over the head of the tibia on the inner or the outer side, and this is absent in cases of loose nodules of hyaline cartilage.

In like manner an injury to the knee may be followed by a chronic inflammation of one or more of the synovial

fringes. These thickened fringes interfere with the movement of the joint, and thus lead to a diagnosis of slipped cartilage. Such a mistake was made in 6 of the 128 cases, and it is difficult to know how it could have been avoided. An injury leads to an effusion of blood into a synovial fringe, the blood becomes organized, and is replaced by a nodule of fibrous tissue. This nodule becomes pedunculated, and may then cause locking of the joint by slipping between the articular surfaces. I have already given details of a case in which a slipped cartilage was associated with sarcoma of the synovial membrane, and in 2 cases the symptoms of displaced semilunar cartilage were found to be connected with a chronic inflammation of the synovial articular cartilages due, perhaps, to early tuberculous disease. In two cases also the joint was thoroughly explored, only to find that there was nothing to account for the symptoms of which the patient complained.

PROGNOSIS.

When a semilunar cartilage has been displaced in the knee it may become fixed again, just as an injured tissue in any other part of the body may repair itself. It is necessary, however, that the injury should have been of the nature of a displacement of the cartilage or of a tear without displacement of the torn ends. The displaced cartilage must first be replaced accurately in apposition, and the limb must then be kept fixed until time is given for repair. Too often the patient's knee is fixed without any attempt being made to replace the cartilage, and the joint is then left under the same conditions, though in a minor and concealed form, as if there had been an unreduced dislocation.

In these cases and in the more serious injuries the joint remains weak and may become a source of danger on account of the liability to a recurrence of the locking, which occurs suddenly, and may happen when the patient is in a dangerous position, as in crossing a crowded street, getting out of a train before it has stopped, or swimming in deep water. The prolonged displacement of a semilunar cartilage may lead to erosion of the articular cartilage at the point where it rubs, but this is not of frequent occurrence, for many of the notes state expressly that the articular cartilages were healthy, even when there had been repeated attacks of pain with fixation, lasting over several years, before the patient was submitted to an operation.

TREATMENT.

The treatment should be carried out in accordance with the prognosis. It is impossible to tell what injury the joint has suffered directly after the accident. The immediate treatment, therefore, consists in such manipulation of the joint as will restore its perfect freedom of movement to the satisfaction both of the patient and of the medical man. Mr. Robert Jones[2] points out that the proper manipulation is "acute flexion, lateral deviation and rotation inwards, and full extension." "Acute flexion is always painful, but it is the only position where internal rotation of the tibia is most free; lateral deviation separates the bones which hold the cartilage, and full extension allows of the readjustment and places the limb in such a position as to permit of accurate union of the internal lateral ligament." The joint is then fixed in a state of full extension until the effusion subsides, after which the patient is allowed to walk, precautions being taken to prevent any lateral strain.

RESULTS OF OPERATION.

I am not especially concerned this evening with the treatment of these cases in the early stage, for they rarely come under the observation of the surgeon, and a considerable proportion are cured. An operation is needed when the recurrent attacks of painful locking are so numerous as to make the patient's life a burden, and when, by reason of his occupation—a cavalryman, an omnibus conductor, or a sailor, for instance—it is impossible for him to earn a livelihood when the movements of his joint are restricted. The operation is not uncommon, as I have already shown, and I thought it would be interesting to know what the results were when the patient had been deprived of a semilunar cartilage for some length of time.

The patients operated upon for removal of the internal or external semilunar cartilage who replied to my questions numbered 89. Their answers can be tabulated in the following form:

Question 1.—Seventy-three patients replied that they had experienced no return of the symptoms for which the operation was performed; 16 stated there had been a recurrence.

Question 2.—Fifty patients said that the knee from which the cartilage had been removed was as strong as the other; 39 said that it was weaker.

Question 3.—Seventy-seven patients declared that the movement of the joint was perfect; 12 said that the movement was impaired, but in 8 of these cases the movement was only hampered when kneeling, and was free for all other purposes.

Question 4.—Sixty-eight patients reported that the shape of the knee was unchanged, whilst 21 thought that the shape was altered.

Question 5.—In 43 cases the knee was absolutely painless, in 11 cases the knee was only painful at a change of weather, but in 35 cases the joint was said to be painful.

Some valuable information as to the results of the operation can be obtained from these replies. Some of the replies come from patients who were operated upon as far back as 1893 and in no case was the operation more recent than 1908. I wished to know the results when a sufficient time had elapsed to test them thoroughly, and I did not apply for information, therefore, until at least two years had elapsed.

The returns as to recurrence of the symptoms after operation were most satisfactory, since 73 out of 89 patients had been permanently relieved. Of the remaining 16, one, perhaps with some infusion of Irish blood in his veins, writes that he is "not shure" whether he has had any return of a painful locking of the joint; another has "a slight grating in the joint at times"; a third says, "I was nearly fix this year through lifting a box;" a fourth writes that he was "laid up for a fortnight through its slipping out"; a fifth, that "once I twisted it, it swelled up but it gone down." Another replies, "Yes, the cartilage has slipped since then on one or two occasions," and another, "Yes,—on two or three occasions (serious) —often slightly"; and yet another, "Yes, at intervals, but I return it to its position after a few hours." A patient writes that he was "operated upon five years ago, with a return of the symptoms twelve months afterwards." Another complains that "the symptoms recur if he knocks his toes against anything that turns them inwards," and another replies in almost similar words that "if he knocks his toes against anything that turns them outwards the feeling is just the same as if it was coming out again." Both these patients had their internal semilunar cartilages removed.

One patient was frankly dissatisfied with the result, and one lives in dread, for he answers the question, "Has there ever been any return of the symptoms for which you were operated upon?" with, "No, sir; it has not gone out of place yet, but it feels sometimes as if it will." A medical man replies: "No, but the tibia tends to rotate more freely on the femur than normal." The rest of the patients content themselves with saying that there has been no recurrence, but give no details.

The second question was asked to ascertain whether the knee was a useful joint after the semilunar cartilage had been removed. The replies show that a really useful limb was obtained in most cases. One patient replies: "I have to-day swum in the long-distance championship, and felt no trouble from my leg" (the operation was performed in February, 1907), and he further volunteers the statement: "I also play football, cricket, and nearly all other sports." Another patient, operated upon in November, 1899, says: "I have played football every season since." Patient No. 49 writes: "Previous to the operation I could hardly walk with safety, but since then I have continually played football"; and similar testimony to the utility of the joint is borne by the answer: "Can walk ten or twelve miles without getting tired."

The following answers, on the other hand, show that the operation has not been quite so successful, although the patients are satisfied with the results. The answers are given in reply to the question, "Is the knee as strong as the other?" "Yes, for all normal uses," says one. "Yes, for every ordinary purpose; but a slight weakness under a strain—for example, ski-ing," says another. "Yes, as regards walking; not as regards a sideways strain," replies a third.

Some of the patients who felt that the knee was not so strong as the uninjured one say: "It seems to go with a

click if I knock it against anything all of a sudden"; "not so strong after a heavy day's work or an extra exertion at footballing"; "No, at times it seems brittle and ready to snap on pressing back." The same idea expressed in different words is given by another patient, who replies, "No, when bent and the weight of the body is thrown upon it, it feels weak and is unreliable."

The unsuccessful results are told in the following words: "Weak, always have to keep it bandaged"; "The knee is not quite as strong as the other, it gave way badly whilst running a month ago"; "No, it don't seem to have the same power in it." "Is the knee as strong as the other? No, not nearly." And another patient writes: "No, I have not had proper use in it since the operation was performed." I invited this patient to come and see me, as his notes stated that he had left the hospital with a useful knee. He came from a workhouse, and had managed to obtain more beer on the way than was good for him. Examination of the joint showed that he had full flexion and extension, but the joint was the seat of commencing osteo-arthritis.

Question 3 asked whether movement of the joint was interfered with by the operation, and the answers are particularly satisfactory. Nearly all the patients reply without any qualification that the movements of flexion and extension are perfect. With the exception of the patient whose leg was afterwards amputated for sarcoma of the synovial membrane, no patient has had a permanently stiff joint after operation, though one says that he "had a rare job to get proper movement after I left the hospital, the knee being so stiff, but I persevered, with good results, and I can now run, jump, cycle, or play football as well as ever I did, and not feel any inconvenience." Another patient writes, "It never works freely at any time, much worse sometimes than others." It is evident from the replies that flexion is more hampered than extension. Thus one patient writes in reply to the question, "Can the knee be straightened and bent as well as the opposite one?" "Yes, if not bent too suddenly." Others write, "Yes, but I cannot kneel on this knee"; "Cannot bend it quite so much"; "No, not bent so well"; "No, I cannot bend it the same as I can the other one, but it can be straightened as well"; "Yes, if no weight is upon it, but at all times when bent beyond a certain point it 'crackles.'" Only one patient complains that movement is attended with pain, and no one finds any difficulty in straightening the leg.

I expected some interesting replies to Question 4: "Is there any change in the shape or appearance of the knee?" because I thought that removal of the interarticular fibro-cartilage would necessarily be associated with a change in the aspect of the joint, either in the direction of its axis or from secondary and compensatory changes. No such alteration seems to have occurred. Most of the patients reply "No" categorically. One patient says that the knee is inclined to bend inwards, a second that the knee is not much changed, but it seems to be more inward than the other, a third that "the outside of the joint is rather larger," and a fourth that the knee protrudes inwards. Other patients who have noticed some change of shape merely reply that there is some alteration, but give no details. It may be assumed, therefore, that no important change takes place in the appearance of the joint as a result of removing the semilunar cartilage in the knee.

Question 5 has brought out the most unsatisfactory result of the operation. No less than 46 patients out of the 89 whose replies are tabulated state that they have had more or less pain. The pain was slight and of a rheumatic character in 11 of these cases, for it only occurred when the weather changed and the patients made light of it. Indeed, in the majority of the other cases it does not seem to have been very severe, but some of the patients replied as follows: No. 60 says, "There is pain when a strain is put on the knee such as going up steps and at a change of weather." No. 52 says the knee is "very painful at times, especially if it is pressed against anything." No. 25 replies, "Yes, if I attempt to turn round with my foot fixed on the ground." No. 62 answers, "Not unless slightly knocked." Another patient says that his knee is "painful occasionally when tired or after rough walking"; and this is corroborated by another patient who writes, "Yes, lately the knee is very painful when walking and I have to walk very slowly." No. 12 writes that his "knee is painful two or three times a day," and No. 20 that "it is very painful at times." The drunken reprobate, to whom I have already alluded, wrote, "it is so painful at times that I have to stand on one leg."

The general results are well summed up by a medical man whose internal semilunar cartilage was removed in August, 1905. He is well qualified to give an opinion, as he is the medical officer of a large public school in England. He writes on July 26th, 1910: "(1) I have had one attack of traumatic synovitis since the operation. (2) There is a considerable difference in the strength of the two knees and in their muscular development (the measurement is 1 in. less on the injured side), but I can play at fives and do gymnastics freely. (3) The joint straightens completely, but flexion is incomplete—about 45 degrees—and I cannot kneel on it for any length of time. (4) The osteo-arthritic changes present before the operation have not increased, as I had feared. From time to time I still get creakings on moving the joint, suggesting some thickened synovial tags. (5) I have had one sudden and sharp attack of pain whilst serving at tennis this summer, but it was only momentary, and was not followed by any effusion. I consider the operation has been the greatest boon to me both as regards my work and exercise. . . . I urged the surgeon to operate against his better judgement because I was so sick of being continually laid up, and I was ready to run any risk."

The notes of his case say that he was 32 at the time of the operation, and had injured his knee at football eleven years previously. The injury is described as a severe strain on the inner side of the left knee, which was followed by repeated attacks of pain with effusion. Eighteen months after the injury a small loose body was felt in the upper pouch of the synovial membrane of the joint, and the knee locked repeatedly. The ends of the bone were lipped. At the operation the internal semilunar cartilage was found to be loose. The loose fibro-cartilage, a piece of hyaline cartilage, and several thickened fringes of synovial membrane were removed.

Prognosis of Operation.

The replies to my questions show that the removal of the semilunar fibro-cartilages of the knee is not dangerous to life or limb under the present conditions of surgery. No death followed the operation either immediately or remotely; only one patient had a stiff leg in consequence of it, and in his case the synovial membrane was the seat of malignant disease. The chance of the more severe symptoms recurring—that is to say, a painful locking of the joint—is as 2 to 9. In the nine successful cases the patient may consider that he will have a useful joint for all the ordinary purposes of life, although it may be slightly weaker than the opposite one if the operation has been postponed for a long time and there have been repeated attacks of synovitis. Interference with movement seems to be even a slighter chance than that of recurrence of symptoms, for it is rather less than 1 in 6, and if it should occur the probability is that the limitation of movement will only be felt in extreme flexion of the joint as in kneeling. The joint will not be liable to any increase in the osteo-arthritic changes which may be present; indeed, the removal of a loose or torn cartilage rather tends to prevent the further development of these changes by removing a source of irritation within the joint.

The least satisfactory part about the operation is that it leaves a joint which may be liable to pain of a more or less severe character. This pain is slight in the majority of cases, and only occurs when the joint has been roughly used or has been called upon to do excessive work, and it is, therefore, occasional; in other cases it is rheumatic in character, and the patient only complains in damp weather, but in a few cases it may be severe.

Conclusion.

The lines of treatment appear, therefore, to be well defined in cases of internal derangement of the knee-joint due to injury of the semilunar cartilages. When the patient is seen directly after the injury every care should be taken to replace the injured cartilage in position by well considered manipulation. Rest in an extended position must then be insisted upon until the swelling has subsided and time has been given for repair, massage being em-

ployed during the whole of this period. It must be borne in mind that no satisfactory result will be obtained if the injury be treated simply as a sprain by rest and cooling lotions. It is essential that the cartilage should be replaced, for otherwise it is as useless to rest the joint as it would be to rest an unreduced dislocation. When these methods have failed, or when the original condition has been badly treated, and the patient is left with a chronically inflamed joint, which is insecure, painful, and locking, the sooner an arthrotomy is performed and the interarticular cartilage is removed the better it will be for the patient. As might have been expected *a priori*, my inquiries show that the least satisfactory results are obtained when the patient has been allowed to go about with a damaged fibro-cartilage for months or years, the best results when he has had only a few attacks of painful fixation of a joint. In these latter cases the ligaments have not become stretched, and the joint quickly resumes all its normal functions.

I hope, Mr. President and gentlemen, that in giving you these results I have in some measure fulfilled the object for which this lectureship was founded. I have taken a subject which is frequently met with in practice, which is sometimes improperly treated from ignorance of its pathology, and which the experience of a large hospital is able to shed light upon. These were the subjects with which my master, John Hunter, delighted to deal, and it will be a great pleasure to me if you feel that I have in some manner followed the path pointed out by that great surgeon.

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CONSERVATIVE SURGERY OF THE NOSE.

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MANY of those who have bestowed sufficient attention on the subject of nasal obstruction and diseases of the nose, and observed post-operation results long and carefully enough, must have become fully cognizant of, if they have not severely animadverted upon, the disadvantageous, not to say disastrous, consequences that only too frequently follow much of the present day intranasal surgery. Such consequences are to be largely attributed to and explained by one thing, and one thing only, and that is too great and quite unnecessary sacrifice of the mucous lining of the nose. This wholly unwarrantable and uncalled-for destruction of the invaluable velvety covering of the nasal interior is even oftentimes carried to such an extent that it would be no injustice or exaggeration to stigmatize it as mutilation.

It is now no uncommon occurrence for the rhinologist to meet with patients who have some time previously undergone an intranasal operation or operations complaining of annoying or embarrassing after-effects. This is all the more to be regretted when one realizes that such sequelae are oftener than not but little capable of remedy or amelioration, and might easily have been avoided.

Loss or impairment of the sense of smell, deprivation of the pleasurable sensation received on the inhalation of the cool fresh air along the nasal passages, and consequently inability to detect aërial vitiation; stuffiness of the nose, desiccation and incrustation of the nasal interior, frequent and paroxysmal sneezing, recurrent headache, dryness and soreness of the throat, and chronic or relapsing hoarseness, are some of the most commonly complained of consequences.

There can be little doubt, moreover, that such ruthless and careless injury of the mucous membrane, by wounding it, and thus reducing its protective mechanism against bacterial invasion, lays the victim open to sinus suppuration, and, indeed, supplies a very likely and feasible explanation of the increased prevalence of these chronic sinus suppurative conditions.

It seems to be forgotten by many of those who practise such surgery, resulting in so great a loss of the mucous membrane lining the interior of the nose, that this membrane is covered with a ciliated epithelium, and therefore has very valuable, and, indeed, for the comfort of the individual, both physically and socially, indispensable functions; that the myriads of cilia in the nasal cavities are essential to the proper fulfilment of the duties of the nose as an aërial filter, cleanser, and moistener of the inspired air. It appears to be overlooked, too, how essential is the erectile tissue largely located in certain prescribed positions, such as the posterior half of the nasal septum, on the inferior turbinals, and on the under surface of the middle turbinals, to the carrying out of the special physiological actions of the nose as a warmer and moistener of the inhaled air.

One of the most frequently encountered and most obvious forms of nasal obstruction is alar collapse. This is a condition that is many times missed in hunting for the causes of nasal obstruction, with the result that some redundancy perhaps in the inside of the nose is discovered and operated upon, while the first and real cause—alar collapse—is left undetected and untouched. A simple measure for the correction of this defect at the very entrance to the nose often saves the necessity for more extensive procedures inside the nasal cavity, and so obviates operations that under the circumstances cannot be curative.

The proper surgical treatment of alar collapse becomes, then, a step towards the conservative surgery of the nose by avoiding the necessity of operations farther in the interior of the nasal cavity. Indeed, one may assert that even such operations can never be successful in surmounting the nasal obstruction if the alar collapse is left untreated. The author has had many instances where patients have had the simple operation performed after the method here described on the narrow anterior nares, and where in the face of considerable interior obstruction the respiratory relief has been so great that further and necessary operative measures for a septal displacement have been postponed or refused, even when the obstruction has been of a very pronounced character.

The normal anatomy of the nasal cartilages is very remarkable, and affords an eminent example of a perfect mechanism for the maintenance of a patent and resilient anterior nasal aperture. The chief framework consists of four lateral cartilages—two upper and two lower. The upper plates are flattened and triangular in shape, with their apices above and the bases below. The inner borders of these plates are in apposition and supported by the cartilaginous septum mesially. To the bases are attached the upper convex margins of each of the lower lateral cartilages. The lower lateral cartilages are laterally elongated plates of thin cartilage, with a convex outer surface, and each meets its fellow in the middle line, the pair thus mainly forming the apex of the nose. Each of these lower lateral cartilages has two limbs—an outer, constituting the cartilaginous ala nasi, and an inner, participating in the formation of the central columna nasi. This inner limb only extends half or two-thirds of the length of the columna nasi, and ends in a rounded, pointed portion, which often projects quite visibly from the outer side of the central nasal column. The cartilaginous framework of the nasal entrance is completed by two more groups of structures—namely, the sesamoid, or segmental cartilages, and the mesial end of the nasal septum.

The operation that I have now been performing for some years with entire success in overcoming impeded nasal respiration caused by alar collapse and marked projection of the pointed ends of the inner limb of the lower lateral cartilage consists in excising the protuberance by submucous and subcutaneous resection. A crescent-shaped incision is made, commencing above on the side of the columna nasi, just anterior to the projection of the inner limb of the lower lateral cartilage, and passing alongside of this projection, which can easily be defined by the manipulating fingers of the disengaged hand. The incision ends at the lower angle of the nasal aperture, and is entirely through the skin. A second incision, beginning almost exactly where the first did, is then carried downwards behind the protuberance on the columna nasi nearly to the same position as the first; it may skirt the protuberance, as in the first incision, so as to excise a piece of skin of the width, at the widest part, of ⅛ in. It may be necessary to remove half as much skin again as this if the protuberance is very large and the skin is redundant. This marked-out

piece of skin, with its subcutaneous tissue, is then dissected away. In some cases it facilitates the operation, if the skin be very adherent to the underlying cartilage, to remove the exposed cartilage at the same time. This is excised freely, and the cartilage trimmed down to a very thin piece. The soft structures are now reflected from the lower end of the nasal septum, and this cartilage is also freely removed. The broadened border of the septal cartilage is always excised, and the septal cartilage, too, for about one-fourth of an inch beyond it. The chief reason for taking away more than the mere projecting part of the septum is that it tends to let the upper nasal lateral cartilage sink down, and in such a manner leads to slight flattening of the nose. This is very desirable, as it pushes the outer limb of the lower lateral cartilage outwards, and so broadens and widens the nasal entrance. The incision is now firmly stitched up with catgut. Healing usually takes place by first intention, but this is always so if an oiled silk dressing with firm plugging is applied during the first twenty-four hours.[1] On the removal of the plugs the feeling of freedom of breathing is immediately experienced, the patients frequently giving generous expression to their sentiments on the pleasant change. This feeling of freedom is emphasized on exertion, as a greater current of air can be inhaled with facility.

No part of the nasal interior has suffered more, or been more mauled and mutilated in the ardour of some enthusiastic but indiscreet operators to gain a clear passage, than the inferior tubinated bodies. Perhaps this is partially to be accounted for by the fact that the anterior ends of these bodies lie only a little distance from the nasal entrance, and are easily visible on tilting the nose. Not only have these parts been cut about and crushed unmercifully, but they have been burnt unnecessarily with the galvano-cautery. There are grave objections to cauterization when the result is that the surface of the mucous membrane is extensively destroyed, as is the case if the cautery terminal is freely rubbed over it, the parts to which the cautery has been thus applied being rendered functionless, as scar tissue takes the place of the normal lining.

Should nasal obstruction exist, and the occluding, swollen part of the turbinal be soft and resilient when touched with the nasal probe, and become shrivelled under the influence of cocaine solution, the best remedial means is the submucous application of the electric cautery point. This is done with the object of pinning down and contracting the turgid and sometimes oedematous mucous covering and underlying erectile tissue.

Anterior turbinectomy is an operation very extensively employed to correct firm enlargement of the anterior ends of the inferior turbinal. It consists in snipping off with special scissors as much of the anterior part of the enlargement as can be conveniently reached. In a large proportion of cases this operation is not a good one, since the same objection holds that too much tissue is sacrificed, and the anterior part of the turbinal annihilated as a functional organ in the anterior half of the nasal passage. The anterior end of the turbinal acts like the other parts of this structure in exerting a moistening, warming, and filtering influence on the inhaled air, but it has an additional function too, namely, that of sensation. Many nerve filaments are especially distributed over this part, and ramify in the mucous and submucous tissues as a dense network with fine terminal filaments passing up between the superficial cells.

The anterior end of the inferior turbinal acts as the sensitive finger of the nose, and thus interprets the humidity, purity, or vitiation of the inhaled air, and it is therefore of the greatest importance and utility that this most invaluable structure should be maintained anatomically intact and physiologically active.

There is a form of nasal obstruction very unamenable to treatment—namely, subjective nasal obstruction—a form of obstruction in which no visible or palpable obstruction is capable of detection, the nasal cavity being open enough, and often too much so. The mucous lining is more or less shrivelled and dry, the sense of touch impaired, and a feeling of stuffiness arises from the loss of the sense of feeling of the air entering the nose.

Anterior turbinectomy, from the amount of destruction of the mucous membrane, is very likely to be followed by a localized subjective impairment of sensation, resulting in the loss of that pleasurable sense of coolness experienced on inhaling fresh air through the nostrils; that is really a more or less generalized subjective nasal obstruction.

As regards the surgery of the middle turbinal there is a strong tendency at the present time to overdo this, removing more bone than is often necessary, and at the same time sacrificing the mucous membrane. Middle turbinectomy is in many cases a most useful operation and beneficial in its effects, but, as in inferior turbinectomy, the mucous membrane should always be considered and conserved as much as possible. Such is most essential, as the special nerves of smell ramify over this bony enlargement, too much destruction being very liable to result in loss or great impairment of the special sense. It is very reprehensible to apply the galvano-cautery to the middle turbinal region, as is not unfrequently done, with the risk of olfaction being impaired or lost, or fatal meningitis ensuing.

Most nasal obstructions are located either on the turbinated bones or on the nasal septum, and are either soft or resilient, or hard and cartilaginous or bony, if not a combination of these two qualities. There are many cases, however, in which the obstruction is considerable, being principally caused by firm enlargement of the inferior turbinals; it is a good deal aggravated by slight or moderate disturbance in the position of the septum. It would be stretching the principle of always attacking the nasal septum in preference to the turbinals too far, however, to seek to reduce the redundancy by always operating on the septum. The proper and better method, where the obstruction is mostly due to the enlarged condition of the turbinals, and especially the inferior, consists in removing a portion of the obstructing factor. This is commonly accomplished by the use of the electric cautery or by cutting away whole pieces of the turbinals, anteriorly and posteriorly, or nearly the whole turbinal is bodily wrenched away. It is such mutilation of the turbinals that I wish to condemn, and for which I substitute the operation which I have named *anterior submucous turbinectomy*.

The principle of the operation of anterior or middle submucous turbinectomy is essentially a submucous resection of the turbinated bones; it is applicable to either the inferior or the middle turbinals.

The method consists in incising and dissecting up the soft structures from the underlying bone, and in making a submucous resection of the bone, and extracting the resected portion. In this manner the flaps of mucous membrane are allowed to subside on to the outer wall of the nose, and their integrity is maintained. For the operation some special instruments are necessary, and considerable care must be exercised that the soft structures are not torn or perforated.

The patient sits in an upright position, and has the head sufficiently supported. The exterior and vestibule of the nose are first sterilized with a solution of ethereal soap, or a weak solution of lysoform, and afterwards sponged with a 1 in 2,000 solution of spirit and biniodide of mercury. The anterior half of the inferior turbinal is rendered anaesthetic by (1) applying repeatedly a 10 per cent. solution of cocaine by means of cotton-wool mops, and (2) applying for ten minutes to the turbinal surface a pad of wool soaked in this solution. This usually completes the anaesthesia, but if it is thought desirable to make this more perfect, a submucous injection of eucaine or cocaine may be made. To diminish the amount of haemorrhage, which is often considerable, it is a good plan to pack a strip of gauze, soaked in a solution of suprarenal, under and over the turbinal about to be operated upon, and leave it in position for ten or fifteen minutes. With a good reflected light and nasal speculum in position, a clear view of the turbinal is obtained, and an incision through the mucous membrane down to the bone is made by means of a special short-bladed, crescent-shaped knife. The incision should extend longitudinally for nearly half the length of the turbinal surface, and be along the most dependent part; it should be continued anteriorly up to the point of attachment of the turbinal to the outer wall of the nose. A sharp-pointed, somewhat curved deflector should now be introduced at the incision, and the soft tissues raised from the bone. This is done on both the upper and under surfaces, and with persevering and cautious manipulation an upper and a lower flap are gradually freed. A blunt, curved deflector is used

after the separation has gone a little way, and in this manner one can work with greater confidence and less danger of slipping, or of buttonholing the flaps. The process of raising the mucous membrane is sometimes best completed by means of a special long speculum with slightly curved blades. The blades of the speculum are gradually insinuated between the bone and its soft coverings, and so a good view of the bone can be obtained. It only remains now to cut through and extract the cribriform piece of the bone. This is accomplished by first severing its connexion with the outer, denser portion by means of a pair of short-bladed scissors pushed forcibly backwards, and then with a pair of long, thin forceps, roughened longitudinally, the extraction of the severed piece of bone is completed. The flaps should be pressed outwards on the outer wall of the nose, and maintained in position by means of plugs of cotton-wool firmly wedged into the nasal passage, the object being to bring the cut edges into apposition, so that healing takes place very rapidly. To facilitate the removal of these plugs it is an excellent plan first to adjust a strip of oiled silk over the cut surface and to pack the woollen plugs over it. In such a manner the wool is prevented from adhering to the wound, and the whole can be pulled out with the greatest ease and only very slight traction. The plugs are usually left in position for forty-eight hours. When the middle turbinal is under operation the same steps are followed, but the incision is carried along the under surface and up on to the anterior border. The soft tissues are deflected from the bone on each side, and the bone is removed either with Grünwald's forceps or curved scissors. The flaps are then pressed together by means of woollen plugs passed up on either side—one along the septum and one on the outer wall.

Where the impediment to free nasal breathing is due to the firm enlargement of the anterior one-third or one-half of the inferior turbinals, or to blocking of the middle meatus by the hypertrophy of the middle turbinal, this method of extracting the bone and pressing the flaps together is the most satisfactory in its results. On the removal of the plugs the feeling of freedom of breathing is immediately experienced. There are no disagreeable effects, as the parts heal by first intention. The subsidence of the enlargement of the turbinal is permanent, and, if properly performed, there can be no failure of the operation nor any necessity for its repetition.

In recent years the introduction of Killian's improvements in the operation for deviations and displacement of the nasal septum has marked a great advance in intranasal surgery. Like many good things, however, Killian's operation for submucous resection has been overdone. Many operators, in their enthusiasm for a perfectly free nasal passage, have gone in for removing so much of the septal support as to bring about a falling-in of the nasal bones or cartilages, or both, resulting in hideous deformity. It is more particularly in children that great care has to be taken in performing operations on the nasal septum for displacements causing nasal obstruction. The original cause of septal displacements and deformities is, doubtless, in a large proportion of cases traumatism, the commonest being falling on the nose in the nursery when the child is very young. The nasal septum, once driven out of the straight, is very likely to continue to grow in the abnormal direction into which it has been forced. These deformed septa are by no means uncommon in children, and the question is still unsettled as to the advisability of operation at the tender age. It frequently happens that a young boy of 6 or 7 years comes before the operator for nasal obstruction and is found to be suffering from enlarged tonsils and adenoids, and, at the same time, has a marked degree of impeded nasal respiration, due probably to a very evident deviation of the septum. Much disappointment may be incurred, if rash promises of amelioration have been made, when it is found that nasal respiratory impediment is as bad as ever after the operation for tonsils and adenoids has been performed. It then becomes imperative to do something in the way of operation on the nasal septum. After a large experience in operating on such cases, mostly in boys ranging in age from 6 to 12 years, I have now no hesitation in strongly urging the advisability and practicability of such operative procedure, providing that certain precautions are observed. The chief practical point in operating on this kind of case is not to remove too much of the septum nasi, remembering that it is the support of the nasal bridge, and therefore to leave behind sufficient to ensure that the nasal bones and cartilages are sufficiently sustained. In children I simply aim at getting away the most prominent part of the impediment, always being most particular to leave alone the upper third or half of the obstruction, and only making a tunnelled passage for the respired air to pass freely through.

Another imperative practical point in operating for this redundancy is to make every endeavour to injure the mucous membrane as little as possible. It should simply be clearly cut, and carefully and completely reflected, and then neatly replaced and sutured, the object being to get union by first intention so that a repletion of granulations is prevented. Another way of aiding this object is to dress the wound with oiled silk, which means that the serum exuding from the wound is kept applied to it, and this serum dressing ensures immediate aseptic union. The nostril is then packed with dry gauze to act as a splint and so prevent the entrance of air for twenty-four hours. With these provisions I am certain that this operation can be done in these young subjects with safety and great advantage, and should therefore be unhesitatingly undertaken when the amount of nasal obstruction is sufficient to demand operative interference. In carrying out this resection operation on the adult septum there is little doubt but that the mucous membrane is too often too much injured, and so healing is retarded and the efficacy of the operation impaired, since one of the results of this is the formation of excess of granulation tissue in the nose and fibrous thickenings and adhesions.

In the instance of frontal sinus surgery, again, the major operation is not uncommonly embarked upon before intranasal surgical measures have been sufficiently tried, with the result that discredit is cast on an otherwise signally good operation. Here the more conservative measures of intranasal surgery are most essential to the success of the frontal sinus operation; and, indeed, the necessity for this operation may be often avoided by reducing the dimensions of the middle turbinal and thoroughly clearing the middle turbinal region of polypi, granulations, and carious cells. In this way drainage is facilitated and the lower part of the naso-frontal canal and hiatus semilunaris opened. Where this has not been done and the radical frontal operation undertaken, great risk of failure to cure the case is run and the difficulties of the operation increased, since it is often almost impossible to insert a sufficiently large drainage tube from the sinus into the nose. The simpler, shorter, and easier course should, therefore, always first be followed—namely, that of adopting intranasal methods preliminary to the larger and more hazardous operation on the frontal sinus itself.

Again, how often is Killian's major operation for the radical cure of frontal sinus and ethmoid cell suppuration undertaken when the better procedure would be the simpler "Ogston-Luc" operation? There are few cases in which the condition of things in the frontal sinus is such that this order of operative gradation would not be the most beneficent to follow—namely, first, through intranasal methods; secondly, operation on the frontal sinus by removing as much of the anterior wall as is necessary to clear out its diseased contents, and pass a large drainage tube downwards into the nose; and, thirdly, the Killian's operation on the frontal sinus and the anterior and middle ethmoid cells, in which not only are the anterior wall and floor partially removed, but the nose is opened into laterally by levering up the ascending process of the superior maxillary bone, and the ethmoid cells are scooped out to as great an extent as is discovered to be necessary to get rid of all caries and suppurative implication.

As a preliminary to surgical operation on the maxillary antrum, it is the custom of many operators to nearly annihilate the inferior turbinal on the same side, as they aver that this is essential to ensure free drainage into the nose; they accomplish this by performing anterior turbinectomy, but are often not content with removing the anterior end of the turbinal, and even extend the destruction to the posterior parts. Some of these authorities seem to have had doubts about the warrantability of this procedure, and recently a modification that is not much less reprehensible has been adopted—namely,

dislocation upward, temporarily, of the entire inferior turbinal, and its replacement after the antral disease has been removed. This, like anterior turbinectomy, is I am sure, quite unnecessary for the successful eradication of antral disease. Here, again, submucous turbinectomy is all that is needed, if the turbinal is excessive in size, preliminary to the antral surgery. If the redundancy of the turbinal is of a soft nature, galvano-cautery puncture is the best means of reducing it; and if the enlargement is of a firm consistency, submucous turbinectomy is the proper and best method, as the soft coverings of the turbinal are in this manner least disturbed, and are still left fit to perform their inestimable and essential functions.

The real test of successful surgical operative interference in the nose is, without doubt, to be ascertained by the answer to the question, How does the patient feel as regards freedom of respiration through and comfort in the nasal interior and pharynx six months afterwards? The most beneficent surgery is the most conservative as regards the preservation of the mucous lining, and is almost always attained by operating successively in stages, rather by what we might call physiological, than by severe, sweeping, sacrificial surgery.

REFERENCE.
[1] *Lancet*, May 4th, 1907.

ON

THE CONNEXION OF ENLARGED CERVICAL GLANDS WITH CARIOUS TEETH, ENLARGED TONSILS, AND ADENOIDS.

BY H. OSBORNE, M.D., M.R.C.S., D.P.H.,
ASSISTANT MEDICAL OFFICER TO THE SALFORD EDUCATION COMMITTEE.

THE subject of enlargement of lymphatic glands in the neck of the child is one of real importance, for, although in most cases the lowering of the general health associated therewith may be comparatively insignificant, yet the susceptibility of children with chronically enlarged glands to infection from trivial causes would seem to be well established, and in a considerable proportion of cases there ensue developments which seriously undermine the health or (when suppuration occurs) cause permanent disfigurement.

This little investigation being merely of a preliminary and somewhat crude character makes no pretence of shedding much additional light on the etiology of glandular enlargement. It merely presumes to supply a certain amount of statistical evidence as to the relation existing between "enlarged lymphatic glands in the neck" on the one hand and "carious teeth, enlarged tonsils, and adenoids" on the other hand. The numbers dealt with are comparatively small, and the results correspondingly liable to error.

In order to obtain the required statistics it was, of course, necessary to adopt standards of enlargement or disease; thus, three standards, "A," "B," and "C," were adopted in each condition, as follows:

Teeth A. No carious teeth present.
Teeth B. One to four decayed teeth present.
Teeth C. Above four decayed teeth present.

Similarly:

Tonsils A. No enlargement of tonsils.
Tonsils B. Moderate enlargement.
Tonsils C. Much enlargement (almost meeting).

Likewise:

Adenoids A. Adenoids (causing symptoms) not present.
Adenoids B. Adenoids causing moderate symptoms.
Adenoids C. Adenoids causing marked symptoms.

Again:

Glands A. Glands which are barely perceptible on palpation—roughly up to the size of a lentil.
Glands B. Moderately enlarged glands—roughly up to the size of a haricot bean.
Glands C. Enlargement beyond the size of a haricot bean.

The glands noted were those situated anterior to the sterno-mastoid muscle and those lying under the jaw, which could be readily felt when the head was moderately extended. Glands lying behind the sterno-mastoid muscle were disregarded.

The method adopted was to correlate the "A," "B," and "C" groups of glands with the "A," "B," and "C" groups in the case of teeth, tonsils, and adenoids, respectively.

This correlation was carried out in respect of four groups of children, as follows:

I. 636 boys of 12 years of age,
II. 551 girls of 12 years of age,
III. 666 boys of 5 years of age,
IV. 621 girls of 5 years of age,

making a grand total of 2,474 children.

The results of the correlation of glands with teeth, tonsils, and adenoids, are shown in tables of percentages.

On the evidence of these tables it would appear that the presence of decayed teeth, enlarged tonsils, and adenoids, are all associated with an increase in the percentage of children with enlarged glands, but, at the same time, this increase would appear to be much more pronounced in the case of tonsils and adenoids, and comparatively little in the case of carious teeth. For instance, the percentages of "C" glands occurring in association with "B" tonsils or "B" adenoids, are distinctly greater than the percentage of "C" glands with "C" teeth; and this holds good in each of the four groups of children.

Granted that the presence of either enlarged tonsils or adenoids is associated with enlargement of glands in the neck, we have still to consider whether such association is due to a general lymphatic hyperplasia involving both glands and other lymphoid structure, such as tonsils, or whether it is rather the catarrhal conditions to which tonsils and adenoids predispose that give rise to glandular enlargement. There is a third possibility—namely, that infecting organisms may obtain access more readily by way of enlarged tonsils and adenoids than through the healthy throat and nose.

These points might be cleared up by accumulating data bearing on:

(*a*) The effect on glands of operation for tonsils and adenoids.

(*b*) The effect on glands of catarrhal conditions co-existing with enlarged tonsils and adenoids, and comparing with the relation existing between glands and tonsils and adenoids without catarrhal symptoms, and so on.

It is proposed during the present year to go into these questions in as detailed a manner as time will allow.

TABLES SHOWING CORRELATION OF GLANDS WITH TEETH, TONSILS, AND ADENOIDS.

Teeth.
A=No caries.
B=1 in 4 carious.
C=Above 4 carious.

Tonsils.
A=No enlargement.
B=Moderate enlargement.
C=Marked enlargement.

Adenoids.
A=No adenoids.
B=Moderate adenoids.
C=Marked adenoids.

I.—*12-Year-Old Boys (636 Examined).*

Glands.	Number Examined.	Teeth.			Tonsils.			Adenoids.		
		A	B	C	A	B	C	A	B	C
		%	%	%	%	%	%	%	%	%
A. Not exceeding size of a lentil	30	5.9	5.0	3.3	5.3	1.6	0.0	4.8	5.0	0.0
B. Up to size of a haricot bean	484	78.4	76.2	74.6	78.8	65.1	38.1	77.7	40.0	33.3
C. Beyond size of a haricot bean.	122	15.7	18.8	22.1	15.9	33.3	61.9	17.5	55.0	66.7
To'als ...	636	100	100	100	100	100	100	100	100	10

II.—*12-Year-Old Girls (551 Examined).*

Glands.	Number Examined.	Teeth.			Tonsils.			Adenoids.		
		A	B	C	A	B	C	A	B	C
		%	%	%	%	%	%	%	%	%
A. Not exceeding size of a lentil	49	16.9	8.8	2.5	10.7	0.0	5.3	9.2	0.0	0.0
B. Up to size of a haricot bean	418	71.8	76.7	75.3	77.8	74.4	36.8	77.4	41.2	0.0
C. Beyond size of a haricot bean	84	11.3	14.5	22.2	11.5	25.6	57.9	13.4	58.8	100.0
Totals ...	551	100	100	100	100	100	100	100	100	100

III.—*5-Year-Old Boys (666 Examined).*

Glands.	Number Examined.	Teeth.			Tonsils.			Adenoids.		
		A	B	C	A	B	C	A	B	C
		%	%	%	%	%	%	%	%	%
A. Not exceeding size of a lentil.	28	9.75	2.4	2.4	4.5	2.7	0.0	4.95	0.0	0.0
B. Up to size of a haricot bean.	405	61.60	65.4	50.6	65.7	28.8	31.25	65.55	33.3	42.85
C. Beyond size of a haricot bean.	233	28.65	32.2	47.0	29.8	68.5	68.75	29.50	66.7	57.15
Totals ...	666	100	100	100	100	100	100	100	100	100

IV.—*5-Year-Old Girls (621 Examined).*

Glands.	Number Examined.	Teeth.			Tonsils.			Adenoids.		
		A	B	C	A	B	C	A	B	C
		%	%	%	%	%	%	%	%	%
A. Not exceeding size of a lentil	51	14.1	7.85	3.7	9.3	0.0	0.0	9.1	0.0	0.0
B. Up to size of a haricot bean	420	60.9	71.15	64.7	70.7	50.0	29.4	71.5	33.3	0.0
C. Beyond size of haricot bean	150	25.0	21.00	31.6	20.0	50.0	70.6	19.4	66.7	100.0
Totals ...	621	100	100	100	100	100	100	100	100	100

Summary.

Glands.	Number Examined.	Teeth.			Tonsils.			Adenoids.		
		A	B	C	A	B	C	A	B	C
		%	%	%	%	%	%	%	%	%
A. Glands not exceeding the size a lentil	158	11.8	6.1	3.0	7.3	1.1	1.4	6.9	0.5	0.0
B. Glands up to the size of a haricot bean	1,727	65.2	72.8	64.2	72.9	55.1	34.2	73.1	34.8	23.8
C. Glands beyond the size of a haricot bean	589	23.0	21.1	32.8	19.8	43.8	64.4	20.0	64.7	76.2
Totals ...	2,474	100	100	100	100	100	100	100	100	100

DR. ALEXANDER MILNE, of Aberdeenshire and York, left personal estate valued at £3,262, of which £630 is in Scotland.

AN exhibition of photographic prints in connexion with biological subjects was opened at the house of the Royal Photographic Society, 35, Russell Square, London, W.C., on Tuesday evening last. The exhibition will remain open until February 7th.

DRAUGHTS AND COLDS.

BY

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DRAUGHTS seem a particularly controversial topic. On the one hand they are hailed as "spirits of health," and on the other hand they are anathematized as "goblins damned." "*Aria di fenestra colpo di balestra*" (the air of a window is like a shot from a crossbow), warns the Italian proverb, and we might coin a proverb—"Shut a window and open a grave"—to indicate the wholeheartedness of the opposite opinion.

There can be no doubt that up to quite recent years most hygienists and physicians held draughts in abhorrence. Harrington declares that "draughts which are productive of discomfort are more dangerous than ordinary vitiation of the air, and therefore complete ventilation with draughts is worse than partial ventilation without draughts"; and all systems of ventilation have aimed at purification of air without sensible air currents. Of late years the object-lessons presented by open-air sanatoriums have made many converts to the cult of the open window, but the fear of draughts is still prevalent in all classes of society, and to draughts are commonly ascribed about 99 per cent. of the colds that afflict humanity.

When we find two contradictory opinions so strongly held, we may be pretty certain that there are truth and falsehood in both, and that the pure truth lies somewhere between the two.

It is certain that many of the colds attributed to draughts are not due to draughts at all. The ordinary man *assumes* that draughts are the causes of colds, and unless he lives in a hermetically-sealed case he will always find a draught of which he can make a scapegoat. It is simply a case of the *post hoc ergo propter hoc* fallacy. Further, it is just in close and stuffy rooms, when the skin is warm and moist, that a draught is most readily perceived, and the cold ascribed to draughts in such instances is almost certainly due to the germs in the polluted atmosphere, and has nothing to do with draughts.

For these and other reasons one must be chary of accepting the ordinary statement, "I sat in a draught and caught a cold."

And yet a draught may under certain conditions be a potent factor in the production of a cold.

A draught is a concentrated current of sensibly cold air impinging upon a localized portion of the skin, and though it is plain that such a current of air cannot directly cause a cold, which is a bacterial disease, yet it is equally plain that it may be an auxiliary factor; for it may cool the blood to such an extent as to diminish the bactericidal activity of the phagocytes and the vitality of the cells which line the respiratory passages, and thus render the mucous membranes more vulnerable to the *Micrococcus catarrhalis* and other bacteria of colds. It is possible, indeed, as pointed out by Dr. Ringrose Gore, that the mucus itself in such cases loses its bactericidal power and becomes a nidus for the growth of the micro-organisms of catarrh.

We must admit that draughts may sometimes in this way be a factor in the production of colds. But be it noted they are merely auxiliaries unless they succeed in cooling the blood unduly; and unless certain germs be present they are quite ineffective.

This theory offers a *via media* between the two opinions; it inculpates draughts in a few cases, exculpates them in most instances.

It may be said that it is impossible to avoid chills, and that germs are always at hand, and therefore draughts are always dangerous, and must very frequently cause colds. But this is erroneous, for it must be remembered that a well-fed mammal has great thermogenic adaptability. Under ordinary healthy open-air conditions, the vasomotor reflexes quickly respond to the stimulation of cold and contract the blood vessels so as to conserve heat. It is true that if a man live constantly in a moist, warm, still atmosphere, and if his skin be continually protected from the normal stimulation of cool, moving air—it is true that under such circumstances the skin reflexes, if unexpectedly called upon, may forget their business and respond sluggishly and inadequately to the stimulus of cold, and that

heat may thus be unduly lost, with deleterious consequences; but the natural well-fed, well-clad mammal has active, ready reflexes, and is not likely to be unduly chilled by draughts.

Draughts there must be, draughts there should be, and it is much easier to accustom the vasomotor centres to respond to them than to try to escape from them altogether. Indeed, as we have shown, an endeavour to escape from them merely renders them dangerous.

Here it may be remarked that the smaller and more concentrated the draught, the more likely is it to chill, both because a current cools as it expands and because a small draught may not be sufficient to arouse response of the regulative apparatus.

But, even if undue cooling do occur, it will not cause a cold unless the bacteria of colds are in evidence; and in clean well-ventilated rooms with sufficient perflation such bacteria rarely appear. Here, again, an endeavour to escape draughts only favours the growth of bacteria, and renders dangerous a draught that otherwise might be quite harmless. It is in stuffy dirty rooms and churches that draughts are most feared; and there is most reason for the fear. In sanatoriums where draughts are large and constant, and where bacteria are comparatively rare, colds very seldom occur.

The conclusion, then, we reach is that draughts do occasionally play an auxiliary part in the production of colds, but that they are easily deprived of their dangers, and should be favoured rather than feared.

To endeavour to escape colds by avoiding all draughts must always be futile and foolish policy, and will not only defeat its own aim by fostering bacteria and by promoting vasomotor lethargy and incompetence, but will lead to deficient vigour through interference with skin reflexes, which play an important part in the respiratory and circulatory functions. When we wish to excite the respiratory centre of the newborn babe we appeal to its skin reflexes, and in cases of night sweats a breeze on the skin seems to give tone to the whole vasomotor system.

The skin is certainly meant to be exposed to moving air currents and to vicissitudes of heat and cold: it is surely meant to have a blood supply that ebbs and flows according to the thermal needs of the tissues; it is surely meant to perspire and to transpire; and accordingly to shut it off from wind currents and to enclose it in a motionless layer of moist air is to depart very far from the ways of physiological righteousness. The bracing effects of dry air and of seaside breezes are largely due to their stimulating effects on the excretory and reflex functions of the skin; and the man who endeavours to avoid colds by avoiding all draughts will not only catch more than his share of colds, but will possess much less than his share of health and vigour.

DR. JAMES HALE, of Waterlake, Chiddingstone, Kent, left estate of the gross value of £20,080, with net personalty £12,207.

AMONG the features of the Hygiene Exhibition to be held at Dresden in 1911 will be a pavilion fitted up under the auspices of the German Association for the Care of Cripples. The objects exhibited will include everything relating to the subject from the historical, statistical, and other points of view; surgical and other methods of treatment of the various forms of disease giving rise to crippling, with their results; schools for cripples; the social importance of the work; cripples in art and literature, etc.

WE have received from the Workhouse Nursing Association a report relating to its work between February, 1906, and June, 1910. We gather that its finances are in good order, and that though the need for its existence has somewhat lessened it intends to keep its machinery in good order and to intervene whenever it seems necessary on behalf of the objects for which it was originally founded some thirty years ago. These were (1) to raise the standard of public opinion on the whole question of workhouse nursing; (2) to secure the appointment of trained nurses as matrons in all separate infirmaries; (3) to train and supply nurses to workhouse infirmaries in London and the provinces. The third object, after very successful achievement for many years, has been definitely dropped, but the others remain. The honorary treasurer of the association is Miss Wilson, the secretary Miss Gill. Communications regarding the association should be addressed to the former at 37, Dover Street, London, W.

ON SOME OF THE BIOLOGICAL AND STATISTICAL ERRORS IN THE WORK ON PARENTAL ALCOHOLISM BY MISS ELDERTON AND PROFESSOR KARL PEARSON, F.R.S.

BY

MARY D. STURGE, M.D. and SIR VICTOR HORSLEY, F.R.S., F.R.C.S.

INTRODUCTION.

No question is more interesting to the medical profession than the alleged physical deterioration of the people, and upon no profession does so heavy a responsibility rest to oppose as far as possible all known causes of physical deterioration. According to the Report (1906) of the Interdepartmental Committee on Physical Deterioration presented to the House of Commons which inquired into the question whether we are degenerating or not, the two foremost causes of deterioration, stated by the Committee and bracketed as mutually interactive, are bad housing and drink. It is, therefore, of the utmost importance that all public statistical work on the latter subject should be carefully examined. If it is correct, it must prove a valued national assistance; but if it is incorrect, it may entail national consequences little short of disastrous. In our opinion the recent memoir of Miss Elderton and Professor Pearson belongs to the second category.

We therefore publish the subjoined paper to extend our previous criticism of that work, which professedly studies the influence of parental alcoholism on the physique and ability of offspring, the result being that, in the opinion of the authors, alcoholism causes no appreciable detriment to the drunkard or to his children. The papers published by these authors on the subject are to date:

1. A First Study of the Influence of Parental Alcoholism on the Physique and Ability of the Offspring, by E. M. Elderton and K. Pearson, F.R.S., 1910.
2. Letters by Professor Pearson in the *Times* of July 12th and August 10th, 1910, in reply to Professor Alfred Marshall.
3. Supplemental Memoir by Professor Pearson, being No. 1 of Professor Pearson's *Questions of the Day and of the Fray*. A reply to the Cambridge Economists, 1910.
4. A second study by Karl Pearson, F.R.S., and Ethel M. Elderton, being a reply to certain critics of the first Memoir, etc., 1910. Published December 24th, 1910.

The material on which they worked was (1) a remarkable report by the Social Investigation Committee of the Edinburgh Charity Organization Society, in which the social conditions of the families of 1,400 school children dwelling in one of the worst slum districts of Edinburgh were set out in schedule form with extraordinary wealth of detail; and (2) private notes, by Miss Mary Dendy, of feeble-minded children in Manchester (no date).

(Of this material the first half, the Edinburgh report, ought to be in the hands of every one interested in public health and social reform. It is published by Messrs. P. S. King and Co., Orchard House, Great Smith Street, Westminster, 1906, price 5s. As regards the second half—namely, Miss Dendy's notes—these can no longer remain private, and we have elsewhere (BRITISH MEDICAL JOURNAL, December 31st, 1910) asked Miss Dendy to publish them in the interests of social science and statistical accuracy.)

The first appearance of these writings, and the extraordinary conclusions which the authors arrived at last May—namely, that alcoholism does not appreciably affect either the efficiency or wage-earning power of parents, or the physique and ability of their offspring—caused a great deal of pleasurable excitement in some sections of the community.

It was, however, the opinion of various statisticians and biologists (prominently among the former Professor Alfred Marshall and Mr. Keynes) that Miss Elderton and Professor Pearson had omitted to observe certain obvious precautions to ensure accuracy, in handling the data, biological and statistical, on which their conclusions were based. It was generally felt by all who read the *Times* of May 21st, 1910, that if the memoir was an untrue presentation of the facts, a very grave injury had been done by Miss Elderton and Professor Pearson to the sciences of eugenics, of statistics, and of sociology. In fact, we may quote (altering their term "good cause" to "science") Miss Elderton and Professor Pearson's own words in their memoir (p. 1): "No greater evil is done to 'science,' than when

statistically undemonstrable statements receive, owing to emotional appeals, general credence, and then wider experience shows them later to be inexact."

Their words express the position well, because, as we shall immediately show, they have issued "statistically undemonstrable statements" which have caused, besides the evils they refer to, much loss of time and trouble to many scientific workers who have bought and laboriously considered memoirs which, though issued under the aegis of the greatly honoured name of Francis Galton, are unworthy of such titular distinction.

In the first place, it must be understood that Miss Elderton and Professor Pearson, beginning with the first paragraph of their first memoir, have taken the (fortunately) extremely rare step of arrogating to themselves statistical omniscience and accuracy, scientific "judicial calm," and all noble motives that can inspire social workers, while at the same time they accuse other investigators in the same field (most of whose scientific work they at first ignored*) of bias, (1) p. 1, 32,† (3) p. 1; of wilfully publishing false statistics, (1) p. 32; of "heedless criticism," (3) p. 25; of not possessing "real knowledge of the subject under discussion," (3) p. 26; of "faulty logic," (3) 1, etc.

It is necessary to make this unpleasant fact quite clear, as Professor Pearson has accused, (3) p. 24, "the Cambridge Economists"—that is, Professor Alfred Marshall and Mr. Keynes—of initiating personal comments, whereas, as we have just shown, he and Miss Elderton were the first and only offenders. Moreover, an editorial of the BRITISH MEDICAL JOURNAL of November 12th, 1910, most unjustifiably hinted that the opponents of scientific error were equally guilty with Professor Pearson of his offence. We may be allowed to express the hope that future memoirs and papers by the Galton Laboratory will be issued free from such blemishes.

We will now deal systematically with the errors of Professor Pearson and Miss Elderton's work.

COMPLETE ABSENCE OF FUNDAMENTAL DATA.

ERROR 1.—*Absence of Controls:*

As Miss Elderton and Professor Pearson claim in their writings mathematical accuracy in their treatment of the subject of parental alcoholism and its effects upon the offspring of the toxically affected parents, their first memoir must be supposed to contain figures and data of at least two groups of families, alcoholic and non-alcoholic respectively. As a matter of fact neither their memoir nor any subsequent papers contain these necessary facts, figures or data. Though the subject of parental alcoholism has long been under scientific discussion and observation, they appear to have been ignorant of all the literature and previous researches on man and the lower animals. These would have directly suggested to them that a research, to deserve the infallibility they claim for their memoir, should follow the ordinary lines laid down by previous workers in toxicology and pharmacology, and particularly by Laitinen, Hodge, MacNicholl, and others, the direct workers on this very subject—that is, that the research must deal with two groups of parents, whether of man or the lower animals, to one of which groups the poison (in the case under discussion, alcohol) has been given and to the other none. As they selected the study of parental alcoholism in man they ought to have compared the offspring of drinking parents with the children of teetotalers. They refrained from fulfilling this, their primary duty in such an inquiry.

Our first charge against them, therefore, is that they have committed the fundamental error of providing no adequate control of their investigations into the condition of the offspring of drinking parents.

ERROR 2.—*Unscientific Use of Terms.*

Not content with having committed the above stated elementary error in the procedure of a research for which the highest scientific accuracy is claimed, they further committed the unjustifiable fault of using vague and unscientific terms which immediately suggested to the uninitiated that the authors had fulfilled the very scientific requirements we have just shown they omitted. The first and worst instance is their use of the word "non-alcoholic." They speak as though they had worked at a group of "non-alcoholic" parents, and constantly employ that expression, using it freely and, especially in the *Times* (June 10th, 1910), without any qualification, although, in a passing sentence in their first paper, they give a definition of their word "sober"—namely, that "the health of the individual or the welfare of the home" did not "appear" to be "interfered with" by the alcohol taken. Concerning this last point even, we must draw attention to the fact that as the Edinburgh records give no data whatever as to the effect of the alcohol on the health of the parents (except in a few instances when they happened to suffer from alcoholic insanity) Miss Elderton and Professor Pearson had no data before them as to whether the health of what they call a "sober" person was or was not "interfered with" by the alcohol he took. Consequently their definition is worthless for an "accurate," "mathematical," "highly scientific" investigation.

The only term which can be appropriately applied in contrast to the "alcoholic parent" of the Edinburgh records is "less alcoholic parent." (See also Error 3.)

Naturally the public press and various promoters of alcoholism have been completely deceived by their misuse of the term "non-alcoholic," and believe that the authors have "demonstrated" (to use Sir J. Crichton-Browne's word) "incontrovertible facts" (to use the *Times* word) in favour of alcoholism and against abstinence.

The second instance is their misuse of the word "offspring." Considering the data they selected, the correct title of their work would have been, "A study of the influence of parental alcoholism on the physique and ability of children of school age."

The term "offspring" includes the whole of a generation, and therefore covers a wide field. We are all "offspring" to the day of our death, and carry our hereditary gifts or disabilities throughout life. Hence, a memoir dealing with the "effect of parental alcoholism on offspring" ought at least to trace that effect beyond the age of 14—that is, into the period when the strain of inherited endowments begins to be tested in full.

As was pointed out by Dr. Maurice Craig (*Lancet*, June 25th, 1910), it is during the two decades next following the 14th year that symptoms of degeneracy usually appear. "It is when the real work of life begins that the child of the alcoholic parent first shows visible signs of early nervous exhaustion, morbid fears, or more serious mental disorder."

Again, no memoir professing to deal with the question, and pronouncing wide sweeping generalizations, is at all adequate unless it takes into consideration the physical condition of the infants from birth to school age, in addition to the years of development after school life and adolescence.

Our second charge against them, therefore, is that they have used in a scientific paper, for which they claim mathematical accuracy, terms which, as one of us (V. H.) pointed out last July (BRITISH MEDICAL JOURNAL, August 6th, 1910, p. 341), are so vague as to be misleading. They have thus gravely deceived the uncritical public into believing that their memoir is a scientific presentation of the subject, and that it has led to the discovery of certain "startling" (Elderton) conclusions.

ERROR 3.—*Selection by the Authors of a Non-representative Population.*

Miss Elderton and Professor Pearson selected for the study of parental alcoholism what he called "a fair sample of the working class," but which was, in fact, a slum population sunk so low that of the 781 families inquired into no less than 62.5 per cent. were tainted by drink, and 81 per cent. were either drunken or in receipt of charitable aid (Keynes). By so doing they cut themselves off from the possibility of fulfilling the first requirement of a modern (and infallible) research into parental alcoholism and its effects by choosing such material that they were unable to make any comparison between the children of alcoholic and non-alcoholic parents respectively, and yet that is what, through their title and terminology, they profess to have actually accomplished.

* See first Memoir. While the present paper was being completed a second "Memoir" by Miss Elderton and Professor Pearson (to which we will reply later) has appeared, consisting of a personal attack on myself and a commentary on the work of some authors quoted in the book written by Dr. Sturge and myself. Although all work published over our names is well known to be in strict collaboration, Miss Elderton and Professor Pearson omit from cover to cover any reference to my colleague and her work. Professor Pearson's last two letters in the JOURNAL are also examples of the same discourtesy (Victor Horsley).

† The references are to the authors' papers enumerated above.

As Professor Alfred Marshall said (*Times*, July 7th, 1910, p. 18), "these two groups (of families) have been so selected that the conclusion reached is practically embodied in the choice of data."

(The "conclusion" Professor Marshall refers to is the chief generalization arrived at by Miss Elderton and Professor Pearson, namely, that the alcoholic parents and children were no worse than what they termed the "non-alcoholic," but who were really "less alcoholic.")

Had Miss Elderton and Professor Pearson chosen a fair sample working-class population, instead of a people living in what is described in the Edinburgh schedules as "this most dreadful neighbourhood," they would have been in a position really to study parental alcoholism, for they would have had at their disposal a group of genuinely non-alcoholic families to compare with the offspring of alcoholic parents.

Having thus prejudiced the issue by the selection of their statistical data they had no right or justification to make any generalizations of the kind for which their work has become notorious.

The utmost that the Edinburgh data they selected can supply as regards the biological efficiency of parents is a contrast between "alcoholic" and "less alcoholic" individuals, which is a totally different category of facts. It will be seen presently that for the question of wage-earning efficiency the Edinburgh statistics give, after careful elimination of those cases in which the data are wanting, a distinct contrast between the capacities of the alcoholic and less alcoholic parents respectively.

This contrast proves (*vide infra*) to be in favour of the less alcoholic individual, and against the drunken workman, thus contradicting Miss Elderton and Professor Pearson's chief generalization in favour of the drunkards, and confirming Professor A. Marshall's position.

But as regards the main issue of their work—namely, a study of parental alcoholism—the data are worthless for a comparison between alcoholics and non-alcoholics.

As a striking demonstration of this fact, and of the inconceivable carelessness and inaccuracy with which Miss Elderton and Professor Pearson have handled the Edinburgh data, we will take the example of the "teetotal families," which we have examined throughout the schedules.

Of course, as there are said to be always bright spots in darkest places, so it might be expected that even in such a population there would probably be some teetotalers.

There are a few. The Edinburgh Committee say in their report, p. 17, that of the 781 families they found 18 teetotal.

Miss Elderton and Professor Pearson say in their memoir, page 5, that the teetotal parents "were too small a class to be kept separate," and therefore they put them into what they call the "sober" or "non-alcoholics" class.

It is not, however, true for them to say they have not kept these teetotal parents separate, for it will be found, (1) page 37 et seq., that they enumerate the children of these (so-called) teetotalers in no less than twenty-eight tables, in separate columns under the heading *teetotalers*, and in contrast to "sober," "drink suspected," "drinks," "bouts," etc. Though we cannot explain why these authors deny the facts exposed in their own tables, we can show that their use of these so-called teetotal persons as teetotalers and as teetotal parents was most unjustifiable, and that, therefore, their tables are wholly untrustworthy, as will now be evident.

ANALYSIS OF THE "EIGHTEEN TEETOTAL FAMILIES."*

In the first place it is not quite certain to us what constitutes a "teetotal family." For instance, the Edinburgh schedules give, as "teetotalers," a mother and all her children, one somewhat weak mentally, and these are spoken of in the report as a "teetotal family." Further investigations, however, show that the father is in an asylum suffering from "alcoholic insanity," though represented by Professor Pearson in his table to be earning 26s. 2d a week.

In the second place, we have searched the schedules and find that *nineteen* fathers are spoken of as being "teetotalers." We therefore tabulate them as the "heads of the families," but in our opinion it is even more important to consider also the habits of the wife if the question of the effects of parental alcoholism is under discussion.

Miss Elderton and Professor Pearson have naturally not taken the matter of either the father or mother as being teetotal parents into consideration, since, as we have already seen, biological facts are of little importance to them if there is enough material for forming conjectures.

We have placed in the accompanying table the habits of the wife, that is, mother, in the so-called "teetotal families," wherefrom it will be seen that in a full half of the cases of "teetotal families" the mother either drinks or there is no evidence whatever to show whether she drinks or abstains.

In the remaining half, in which the wife is described as a "teetotaler," we have not, except in one instance (530), any more knowledge in her case than in that of her husband as to when the parental teetotalism began, that is, whether before the birth of the children or after.

Table of "Teetotal Families."

No. of Father in Edinburgh Report.	Date of Pledge Taken.	Habits of Wife.	Date of Pledge Taken.
22	"Two years ago"	No evidence	Unknown.
57	Unknown	Teetotaler	—
93	Unknown	Probably a teetotaler	—
108	Unknown	Teetotaler	—
141	Twelve years. Four children born before; five afterwards	No evidence	—
147	Nine years—that is, since death of wife	Dead nine years	—
200	"Recently"; youngest child 4.	No evidence	—
244	Unknown	No evidence	—
258	Unknown	Teetotaler	—
260	Unknown	Drinker	—
336	Unknown	Drinks, but not seen to be drunk	—
342	Unknown	Teetotaler	—
367	Unknown	Teetotaler	—
479	Unknown	Teetotaler	—
530	"Now"	Drank at least during part of child-bearing period	"Now."
621	Five years	Suspected of drinking	Unknown.
643	Unknown	No evidence	—
715	Unknown	No evidence; home miserable	—
774	Unknown	Teetotaler	—

Of these 19 cases, in no less than 13—that is, Nos. 57, 93, 108, 244, 258, 260, 336, 342, 367, 479, 643, 715, 774, there is no evidence to show when the father or the mother became a teetotaler before becoming a parent. Therefore these cases are worthless in a study of the effects of parental alcoholism. Of course this biological point is nothing to Miss Elderton and Professor Pearson, who have committed the far greater, in fact gigantic, error of not determining the parallel datum *qua* parentage—(namely, the incidence of the alcoholism) in the whole of the rest of the Edinburgh material—namely, 762 families (*vide infra*). It is quite comprehensible, therefore, why they accepted without question these thirteen teetotalers—whose incidence of teetotalism is absolutely unknown—as non-alcoholic *parents;* and, although they deny considering them separately, they nevertheless have done so freely. The rest—namely, Nos. 22, 141, 147, 200, 530, 621—are the only cases in which the facts of the incidence of the parental teetotalism are given in the schedules for the fathers, and it will be seen that these were not genuine teetotal parents, but the exact opposite.

Thus, No. 22, whose youngest child is stated to have been 7 years old, was "a drunken wreck" until two years before the inquiry, when he became a teetotaler—that is, five years after his youngest (of four children) was born

* In our own opinion the expression "teetotal family" should only be applied to a household in which both parents are genuine teetotalers, and who commenced their teetotalism for some (say ten) years before the birth of their first child.

It is clear that this was an instance, not of parental teetotalism, but parental alcoholism.

No. 141 became a teetotaler after the first four of his children were born and before the remainder (five). Of these five, four appear in the schedules in detail. Of these four, the first child was born immediately after the father's teetotalism commenced, and the three others followed within five years. In our opinion the father's parentage of these children was not, accurately speaking, a teetotal one, but an alcoholic one, in diminishing ratio. (We may note, in passing, that the intellectual capacity of the four children increased as the alcoholic influence went more and more into the background, the description of the mental aptitude of the children being successively "dull," "dull," "medium," "good" (for the youngest—that is, born six years after the alcohol had been given up).

No. 147, the youngest of whose five children was 10 years old, and who had become a teetotaler after his wife's death "nine years ago"—that is, a year after the last child was born—is described as having been "a hard drinker, and broke her (that is, his wife's) heart."

No. 200 figures as a teetotaler, but he only "recently" signed the pledge after a "reckless" life. His youngest child was 6½ years old, however.

No. 530. All children dead, except one 9 years old. Father and mother "teetotalers *now*" (*sic*).

No. 621. This man only became a teetotaler *after* the birth of his two children, whose cases are described in the report.

To sum up this matter of the so-called "teetotal families" and the use made of them by Miss Elderton and Professor Pearson, it is perfectly obvious (1) that for all except 6 of the cases there were no data whatever as to the existence or not of non-alcoholic paternal parentage; (2) that in no case did they consider whether the mother was, in fact, a non-alcoholic parent. As Professor Bateson truly observes of Professor Pearson's work, it is very obvious that his "methods dispensing with individual analysis of the material are useless" (*Mendelism and Heredity*, p. 7). In this question of national eugenics they are also most dangerous.

No doubt, Miss Elderton and Professor Pearson have saved themselves much time and trouble, but only at the expense of their own scientific reputation and that of the Galton Laboratory of Eugenics.

We shall presently see further inaccuracies and errors, for which these authors are responsible, owing to their omission of necessary statistical precautions in examining the data they selected and to their method of creating such statistics where real data did not exist. Also, we shall show later how their methods of treating the data always tend in favour of the capacity of the drunken, and therefore in support of their first and chief generalization.

ERROR 4.—*Absence of any Proof of Alcoholism beginning before the Birth of the Children.*

As Professor Marshall says (*Times*, July 7th, 1910): "An inquiry into the influence of parental alcoholism on the offspring must suppose that the alcoholism had set in for some time before the offspring were born."

All will agree to this elementary biological position, and therefore—like Mr. Keynes, and notably Dr. Saleeby—we looked through Miss Elderton's and Professor Pearson's memoir to see how they determined this essential and fundamental datum for each child whose case they subsequently investigated mathematically.

Not one word on the subject is to be found in their memoir, although we are told to receive it as a monument of scientific infallibility. In the report of the Edinburgh Charity Organization Committee, which formed the one-half of their original material, the datum is not given anywhere. Unfortunately the other half of their material—Miss Dendy's—is so far kept private, and we have no means of knowing whether it contains these facts so essential to a mathematico-statistical investigation into parental alcoholism.

Thus, though Miss Elderton and Professor Pearson grouped the children investigated by the Edinburgh workers into all kinds of tables, and illustrate their "physique" and "ability" by numerous graphs and determinations of "η," they did not even know how many were, or which of the said children was, or was not, the subject of the effects of parental alcoholism.

In other words, the pages of tables and calculations are, statistically speaking, deceptions, because they are represented to be the results of certain exact scientific determinations, which, as a matter of plain fact, have never been made by the authors.

This fatal hiatus, in a research for which so much accuracy is claimed, has been repeatedly pointed out by the following writers: Sullivan, Keynes, Saleeby, Whittaker, Sims-Woodhead, Basil Price, and one of us (M. D. S.). Professor Pearson was forced to attempt some kind of reply to this indictment, and therefore put it in a small-print footnote in his supplemental memoir, p. 15, actually repeating it in a letter against us in the JOURNAL for November 26th, 1910. It is as follows: "There are as many children of 5 and 6 as of 11 and 12, and *if some* children were born before parental alcoholism had started, *some* were certainly born after," etc. The italics are ours.

We have elsewhere (BRITISH MEDICAL JOURNAL, December 3rd, 1910) shown that this passage by Professor Pearson convicts Miss Elderton and Professor Pearson of indifference to scientific facts in their composition and construction of their statistical tables. For the whole of their memoir being professedly a study of the effects of parental alcoholism in children, the above quotation proves two things: first, that they have not, and never have had, adequate data to give them a basis for such a mathematico-statistical inquiry as they profess to have carried out; and secondly, that in spite of being perfectly well aware that a number of the children must have been born before the parental alcoholism set in, they nevertheless included them in their tables without the slightest reserve or qualification, and thereby vitiated their whole research. This second biological error—namely, their huddling together in a confused heap the children of alcoholics of various degrees and children of parents whose alcoholism began after the birth of their offspring with children who were really born after the alcoholism began—is the principal reason why their results are so inconclusive as well as erroneous (*vide infra*). To our mind the indifference to scientific facts and terms which led Miss Elderton and Professor Pearson to speak incorrectly of having worked at "alcoholic" and "non-alcoholic" parents is only exceeded in scientific wrong-doing by their thus publishing elaborate mathematical tables about the influence of parental alcoholism on children as though they knew which of these children were or were not the subjects of parental alcoholism when they had no data of the kind in their hands, and consequently based their whole research on conjecture. Most truly do the words of Professor Marshall (see *Times*, August 2nd), spoken of another point, also apply here, namely, that Elderton and Pearson's memoir does not "represent ascertained fact, but contains a large element of conjecture." Nothing is more true, for owing to this hiatus in their information, all their tables about the physique and ability, etc., of the offspring are based entirely on conjecture.

Professor A. Marshall raised in the *Times* (July 7th, 1910) the very important further question how long before the birth of the children who were found at the date of inquiry *to be at school* must the alcoholism be found to have begun, to be reasonably effective. He suggests that this period might be fifteen years. Of course, this is an essential point, which is partly included in the general question of the incidence date of the alcoholism, but it certainly should have been dealt with in the memoir as a separate part of the greater general question.

So also Dr. Claye Shaw, in his evidence before the Committee on Physical Deterioration, said: "We must be careful to eliminate in the case of the father the time when he became an excessive alcoholic. One often sees the later members of a family of worse development than the earlier ones because the father began his excessive indulgence after the earlier children were begotten." These points have never been considered by the authors.

What makes their conduct still more inexcusable from the standpoint of scientific statistics is that with all the wealth of material in their hands they could, with the help of the Edinburgh Charity Organization Society, have ascertained the essential datum of the incidence of the parental alcoholism in a considerable number of cases with but a relatively small expenditure of time and money. Unfortunately sensationalism and "emotional appeal" seem to have outweighed the necessity of further

scientific labour in what the *Times* called a "passionless and scientific inquiry."

THE EFFECT OF MISS ELDERTON AND PROFESSOR PEARSON'S ERRORS OF METHOD ON THEIR TABLES OF CHILDREN'S PHYSIQUE AND ABILITY.

We have just seen that the authors' tables and graphs of the children's physique and ability are fatally vitiated by want of "alcoholic" and "non-alcoholic" grouping, as well as by the absence of data as to which children were or were not the victims of parental alcoholism.

An illustration of the scientific failure of the Memoir owing to these fundamental biological and statistical errors is that out of the 20 pages of tables and statements of results, nearly one-half (actually 9½) are devoted to "parental alcoholism and filial eyesight" in four sections, and yet are utterly inconclusive as results. Thus of the first (refraction) section they finally say: "Throughout the relationships are really small and clearly not simple in character, so that not much stress can be laid on them; but as far as they go (*sic*) they show no definite and marked connexion between intemperance and bad eyesight—the connexion, if any (*sic*), is rather between intemperance and good sight" (p. 19).

Of the second section (acuity) they say: "There is no definite conclusion which can be legitimately drawn beyond the assertion that if acuity of vision is related to parental alcoholism, the relation must be very slight and complex in character" (p. 21).

Of the third section (eye disease) they say: "We think we may say that no correlation between intemperance of the parent and eye disease in the child is indicated by these (Edinburgh) data" (p. 22).

Of the fourth section (home and street environment) they say: "The relationships, whatever they may be . . . are too slight and too entangled for any definite conclusions to be drawn from the present statistics" (p. 25).

To every impartial observer these conclusions of Miss Elderton and Professor Pearson on the subject of parental alcoholism and filial eyesight are valueless as contributions to exact scientific knowledge, and their failure should constitute a warning to these investigators to observe well-known biological and statistical precautions before dealing with human statistics.

ERROR 5.—*Contradictory Statements by Miss Elderton and Professor Pearson concerning the Children of Alcoholic Parents—for example, their Physique, Health, and Higher Death-rate.*

The Edinburgh data contain an important column, namely, one giving the number of dead children in each family. From this Miss Elderton and Professor Pearson found a higher death-rate among the children of alcoholic parents than among the children of sober parents.

But they also conclude that the health of these same children "appears on the whole slightly better than the health of the children of sober parents." As one of us (V. H.) pointed out last July, these statements are incongruous, for children who are healthier ought not to die more. In their reprinted memoir they take up this objection (although Professor Pearson in the JOURNAL of December 24th complained that we had never treated his work seriously till quite recently) and say that there is no *a priori* basis for saying that healthier "*surviving*" children ought not to die more than less healthy children. To support this they have inserted the word "*surviving*," by which they intend to suggest that if we assume the excess of deaths among the alcoholics' children to all occur before the age of 5 years, we may imagine the survivors—that is, school children—to be stronger individuals. Their original sentence, which we have just quoted, was, of course, wholly unqualified, and has been (and will continue to be) repeated by the drink trade all over the world as the "scientific proof" of the beneficent harmlessness of alcoholism. An act of this sort carries with it its own condemnation, and, further, on turning to their explanation of this higher death-rate of the alcoholic group, we find (Memoir 1, p. 31) that they make the following deliberate statement.

"It [the higher alcoholic offspring mortality] would appear to be due very considerably to accidents and gross carelessness, and possibly in a minor degree to a toxic effect on the offspring."

Anyone who had not seen the original memoir would naturally assume that the authors worked out mathematically the number of accidents and conditions due to carelessness, and thus obtained some sort of basis for their statement that the alcoholics' children die more from accidents directly due to parental intemperance and carelessness, than from the degenerative consequences of that intemperance.

The Edinburgh data, on which their statement is mainly based, contain absolutely nothing on the question of deaths from accident. There is no indication either that Miss Dendy's notes furnished any information of the kind.

The above-stated conclusion, therefore, is not the result of scientific study of statistics, but is created by Miss Elderton and Professor Pearson in favour of the non-toxicity of alcohol, and has no place among the conclusions of what they term "real knowledge" (p. 32), except as regards "overlaying"* (see our book, *Alcohol in the Human Body*, fourth edition, p. 260).

For the adequate consideration of this point, and before coming to their conclusion, the authors ought at least to have ascertained what proportion of accidental deaths actually occurred in Edinburgh among children exposed to domestic carelessness. As they did not take this obvious precaution we have obtained, through the great kindness of Dr. Leslie Mackenzie, the number of accidental deaths among children below fourteen years occurring in Edinburgh during the last seventeen years. These figures, very carefully prepared for us by the Deputy Chief Constable J. Chisholm and Detective Sergeant McCondach, show that the average number of deaths per year is 17. Of these, those occurring in children of the helpless ages—that is, 6 years and below—resulting from burns, scalds, suffocation, causes which might probably be the direct result of domestic carelessness, constituted 31.7—say 32 per cent. In other words, it would appear that between 5 and 6 deaths occur per year under these circumstances. Estimating the child population of Edinburgh at about 70,000 (there are 45,000 attending the schools), the cases which are attributable to "alcoholic" accident obviously must form but a small fraction of the heavier mortality they found to exist among the offspring of "alcoholic" parents. Clearly the ordinary condition, that the weaklier offspring die more than the healthier, remains unaffected by Professor Pearson's and Miss Elderton's hypotheses against the toxicity of alcohol.

Although we have shown that the whole of Miss Elderton's and Professor Pearson's memoir is, biologically speaking, worthless for the purposes of the study of the effects of parental alcoholism in offspring, by reason of being only a mathematical superstructure raised, as Sir Thomas P. Whittaker says, on a "rotten foundation," we intend now to take up the examination of the chief statistical generalization published in the Memoir, namely, that the wage-earning capacity and efficiency of the drunkard is at least equal to or possibly a little above that of the sober workman.

In saying this we regret in a mathematico-statistical discussion to use such a vague expression as "at least," but it will be seen directly that there are two versions of this sweeping generalization — one, that of Miss Elderton and Professor Pearson, in favour of the sober; and one, that of Professor Pearson, in favour of the drunkard—any vagueness of expression therefore lies at the door of these authors. We take this point up for many reasons, but must preface the discussion by saying that Professor Pearson's contradiction of himself and Miss Elderton is unaccompanied by any explanation, and that examination of their tables shows that they only arrived at their "startling" generalization by mishandling the Edinburgh statistics.

Of course it was upon this chief generalization of Miss Elderton and Professor Pearson that the supporters of alcoholism raised most of their hopes. We confess that until we were able to give time to the closer examination of the memoir we had no idea that workers in any statistical or other laboratory could have dealt with published facts in such a manner.

We note, too, in passing that our experience of the way in which the Edinburgh statistics have been treated by

*"Overlaying," however, appears to be much less frequent in Edinburgh than in Liverpool or London.

Professor Pearson is similar to that recorded of his methods by scientific workers in other fields. (See especially Professor Bateson. After showing that Professor Pearson's non-analytical method leads to "concealment of that order which it was ostensibly undertaken to reveal," Professor Bateson says: "To those who hereafter may study this episode in the history of biological science it will appear inexplicable that work so unsound in construction should have been respectfully received by the scientific world." *Mendelism and Heredity*, pp. 7, 107, 124, 242. Cf. also Dr. W. Leslie Mackenzie on the methods of the work done in Professor Pearson's laboratory on tuberculosis. "On the Diathesis of Phthisis and of Insanity." *Sociological Review*, October, 1910.)

ERROR 6.—*Erroneous Conclusion that the Efficiency, as Measured by Wage-earning Capacity, of an Alcoholic Male* Parent is at least Equal to that of a Less Alcoholic Male Parent.*

We will now consider in detail the chief generalization raised by Miss Elderton and Professor Pearson, namely, that the effect of his alcoholism on the male parent himself is for biological and social statistics a negligible quantity, since their calculations showed them that his "physique," "intelligence," "wage-earning capacity," and "efficiency" are at least equal to that of a "sober" parent.

Of all their "startling" conclusions this is, of course, the most important, because it is so diametrically opposed to every known fact of social life, seeing that alcohol, to quote the Report of the Royal Commission on the Poor Laws, 1909, p. 221, is universally recognized to be "the most potent and universal factor in bringing about pauperism," and the Report of the Interdepartmental Committee on Physical Deterioration that "drink occupies a prominent place among the causes of degeneration."

These authors begin this subject with the following pronouncement, which we take from their first Memoir, p. 4:

"The wages of the father are to some extent a measure of the general status as to physique and intelligence of the parent. If we consider the father alone, we find that the weekly wages of a drinking man are on the average 25s., and a non-drinking man 26s."

Most people would deduce from this statement that the balance of a shilling in favour of the less alcoholic parent was a fact rather against alcoholism. Not so. Miss Elderton and Professor Pearson hasten to suggest that "a somewhat higher physique or intelligence in the alcoholic might be screened (*sic*) by their habits giving them a lower market value."

The use of this excellent word "screened" prepares the reader for their following pronouncement:

"On the whole it seems reasonable to assume that the drinking parents are in physique and mentality the equal on an average of the sober or possibly *a little above their standard*" (first Memoir, p. 5).

The italics are our own.

It was, however, quite unnecessary for Miss Elderton and Professor Pearson to act thus on May 21st, 1910, as special pleaders† on behalf of the drunkard and to extol his physique and mentality, since the whole question was on September 1st again plunged by Professor Pearson into statistical chaos.

With "calm" born, one must suppose, of indifference to their previous statement, just quoted and deduced from the Edinburgh statistics—that the alcoholic parent earned only 25s., as against the less alcoholic parent's 26s.—he wrote his supplemental memoir, in which, without a word of warning or correction, he published (from precisely the same data, the Edinburgh statistics) a new estimate (p. 11)—namely, that "the average wage of a drinker is 25s. 6d., and of the temperate 25s. 5d." This extraordinary contradiction of fact being deduced from "scientific statistics" and by means of higher mathematics, we have put into tabular form to make it perfectly clear.

Average Weekly Wage Earned.

Date of Estimate.	Drinker.	"Sober," "Temperate," or Less Drinker.
May, 1910 (Elderton and Pearson, first Memoir, p. 4)	25s.	26s.
September, 1910 (Pearson, Supplemental Memoir, p. 11)	25s. 6d.	25s. 5d.

We must now point out to the reader (who may be completely puzzled to know why in August Professor Pearson took 7d. away from the virtuous "less drinker" and gave 6d. to the undeserving drinker) that Miss Elderton and Professor Pearson in May, 1910, provided no evidence whatever to show how they arrived at their contrary conclusion that the "less drinker" was better off by 1s. than the "drinker."

It is, of course, very difficult to deal with "scientific statistics" of this perfection when no hint is given by the mathematician authors of the method whereby they arrived at their first estimate and upon which they based the "startling" conclusion that drunkards are as good as or even better than sober people, which so delighted the *Licensing World* and earned from Sir J. Crichton-Browne such eloquent praise.

But although the scientific world must remain in the outer darkness for want of the necessary information about their methods from Miss Elderton and Professor Pearson, we are not altogether without some idea of the standpoint from which Professor Pearson tried to recast these authors' estimate of 26s. *versus* 25s., and ultimately substituted for it his of 25s. 5d. *versus* 25s. 6d.

In the *Times*, August 10th, 1910, he gives a wage (and sobriety) table, which he had drawn up and termed an "analysis of the fathers' trades," putting it forward with the commendatory parental observation: "This seems so instructive that it is worthy of publication."

It is certainly instructive, but not in the sense Professor Pearson meant.

What he did was to take from a "verification" wage table drawn up by the Edinburgh Committee (*vide infra*), the average weekly wage found by that committee for those cases in each trade in which the data existed in the schedules for a correct statement to be calculated. Professor Pearson then applied to every case he could find or *imagined* to exist (*vide infra*, "Coopers," "Porters," etc) in the schedules, the *same* rate of wage, whether the data for such application existed or not. Of course in the imagined class there were no such data, and Professor Pearson's action amounted to constructive mispresentation of the facts.

Having thus, as Mr. Keynes (loc. cit, p. 119) points out, "assumed from the beginning his own solution of the point at issue, namely, as to whether the drunkards in a trade earn as well and as regularly as the sober in that trade, he arrived not unnaturally at the conclusions quoted above."

Now "the conclusions" that Mr. Keynes refers to are the figures of the second, Professor Pearson's, estimate on our table above—the wages earned by the drunken and sober workman respectively—that is, 25s. 6d. for the drinker and 25s. 5d. for the sober.

But, as we have already shown, these conclusions are in absolute contradiction of those arrived at by Miss Elderton and Professor Pearson only three months before—namely, 25s. for the drunken and 26s. for the sober workman.

Whether an interval of a few months caused Professor Pearson to commit such a large error in calculating such a thing as an average weekly wage, or whether he carelessly copied down wrong figures from the first Memoir,

*The Edinburgh data only provide for investigation of this matter as concerning the male parent, and it must also be remembered that Miss Elderton and Professor Pearson's so-called "non-alcoholic" parent was not a "non-alcoholic" at all, but only a "less alcoholic."

†To those who are interested in the growth of legends, we recommend the study of Miss Elderton's work, *The Relative Strength of Nurture and Nature* (*sic*), published in 1909, where, on p. 26, can be read the preliminary stages of the birth of her and Professor Pearson's generalization as follows: "But before asserting that intemperance of the parents has practically no effect on the physique and intelligence of the children, there is a point to be considered, which I mentioned in the first part of this paper. What is the status of the drinking workman? Is the drinker on an average the abler man and of finer physique? As before, the only estimate we have at present of the intelligence and physique of a workman is the wage he earns. A high wage on an average will mean a stronger and more efficient workman." Miss Elderton further on concludes that "if wage, then, is an estimate of ability and physique, we may say that the ability and physique of the drinking workman is about the average." Thus far in 1909. A few months elapse, and she and Professor Pearson suggest in 1910 that the drunkard may be "possibly" a little above the standard of the sober. The generous public will probably improve on this by putting the drinker up even higher, but we hope that our demonstration that all the superstructure Miss Elderton and Professor Pearson have raised is as substantial as a house of cards, will arrest the growth of this fairy tale of drunkenness.

it follows in either case that his and Miss Elderton's statistical work is what Mr. Keynes called it—"almost valueless" and "actually misleading." We ourselves would omit the word "almost," for, in view of the claims made by the authors to complete mathematical accuracy, the discrepancy we have just tabulated destroys, it will be admitted, the whole value of their statistical memoir.

There is now a far graver charge to be made against Professor Pearson. Carelessness and statistical inaccuracy are serious enough, but we will now show that his table called "analysis of the trades," published by him in his letter to the *Times* of August 10th (for which, according to that letter, he alone is responsible) and also in his Supplemental Memoir, gives a misleading construction of the scheduled *facts* published in the report of the Edinburgh Charity Organization Society.

We must draw attention to the fact that this rendering of the Edinburgh statistics, which is the result of the method employed by Professor Pearson in constructing his table, has been already fully exposed by Mr. J. M. Keynes in the letter published in the *Journal of the Royal Statistical Society*, December, 1910, pp. 117–120.

Mr. Keynes, after showing that Professor Pearson constructed his table of averages, no matter whether the data for his calculations existed in each case or not, says: "Even if these supposed averages were true averages, they would not be very relevant to the matter in hand, for they do not attempt to discriminate between the drinkers and non-drinkers, and cannot help us, therefore, to determine the relative earnings of these two classes. Professor Pearson has classified the men into their trades, whether they were helpless invalids, lunatics, in regular or in casual employment, and has then put against them the wages they might have earned, not those which they actually do earn."

Mr. Keynes, after giving many examples of the real figures in the Edinburgh report and Professor Pearson's travesty of them, sums up by saying: "It is difficult to know how properly to characterize the work of a statistician who uses in controversy a table of this description with dogmatic assurance and without making plain to the reader the principles of its construction."

For the sake of those who have not the opportunity of consulting the original material, we must now go over part of the ground so ably dealt with by Mr. Keynes to explain the work of the Edinburgh report, and to show how completely Professor Pearson's mode of compiling tables and statistics, with or without the use of higher mathematics, has, unintentionally, resulted in a corrupt version of the facts.

The Edinburgh report consists primarily of an elaborate series of records put in schedule form, giving many social details of each family, of the parents, of the children (school medical details), and, finally, a brief account of the family in plain, and often painful, terms.

The column giving the work or trade of the father is immediately followed by a column giving either the weekly wage he earned, or often the full wage (trade union) earned in his trade, and occasionally—if his work was casual or irregular—the average weekly wage.

If, of course, as sometimes occurs in the schedules, the irregularity of work was such that no average could be struck, or the man was hopelessly out of work, or ill, or in gaol, or in an asylum, no wage, naturally, is stated. These facts of omission from the records, however, have been no bar to Professor Pearson, who has actually invented for 17.9 (say 18) per cent. of the cases in his table a wage for which the Edinburgh Committee's report not only gives him no justification, but by its verified wage table specially provides against such perversion of the facts. It is this last point which makes Miss Elderton's and his treatment of these statistics so particularly to be deprecated, for the Edinburgh workers not only give in the schedule of each case every detail in their power, but on this very question of wage earning they state that they went over all the facts again and finally, after further consultation with the employers, drew up a specially verified wage table, which they publish on page 18 of the report, and in which they specifically state for each trade the weekly average wage and the number of cases from their records for which *alone* their wage table is accurate.

Nevertheless, Professor Pearson, with what he and Miss Elderton speak of as "judicial calm," takes the average wage rate, as accurately ascertained by the Edinburgh workers for only a limited number of men, and applies it haphazard to as many more cases as he thinks fit. It follows, of course, that as the most drunken workmen, being the most casual and irregular workers, naturally constitute the majority of cases in which no data exist, he, by gratuitously ascribing to these men the Edinburgh verified average weekly wage, raises the drinkers' side of the account to the level of the "less drinkers."

A more incredible act on the part of a mathematically exact statistician it is hard to imagine, and therefore we will proceed to give some illustrative cases of his method of dealing with wage and sobriety statistics in constructing his table, called by him "an analysis of the fathers' trades."

For the detailed examination of the trades of chimney-sweeps, blacksmiths, and bookbinders, we must again draw attention to Mr. Keynes's latest communication quoted above (*Journal of the Royal Statistical Society*, December, 1910, pp. 118–121), where the first examination of this matter was given.

Gasworkers.

The first trade we will take will be a numerically small one, that of the gasworkers, and we will commence our account of it by saying it was not one of those which the Edinburgh Committee verified. The table which follows, therefore, consists of a brief extract of the facts from the schedules as they were passed in the first instance by the committee and appear in the schedules of the report.

Gasworkers.

No. in Edinburgh Report.	Wage stated in Edinburgh Report Schedule.	Comments Abbreviated from Edinburgh Report Schedules.
66	23s. 4½d.	No suggestion of intemperance.
226	24s.	" " "
236	21s. 3d.	Drinks a little, but keeps pretty decent.
412	25s. 6d. to 30s. 4d.	Sober.
413	37s. 4d.	Sober.
415	37s. 4d.	Sober.
429	37s. 4d.	Sober.
678	30s.	"Drink present." "Very little furniture."

Professor Pearson, in his table, says that the Edinburgh statistics show *five* gasworkers all "sober" and earning an average wage of 27s., whereas the actual schedules of the report give, as we show in the above table, *eight* gasworkers of whom six are "sober" and two drink, and if we take the average of all their wages in the schedules (striking an intermediate wage of 27s. 11d. for No. 412) that is not 27s., but 29s. 9½d. To begin with, therefore, even this unverified table is constructively mispresented by Professor Pearson in his analysis. One point which requires explanation is, why did he leave out the two drinkers? It is, of course, impossible for us to say, but we would point out that these two drinkers whose existence Professor Pearson ignored earned an average wage of only 25s. 7½d., whereas the six "sober" ones earned an average wage of 31s. 2½d. Thus the drinker drops 17.8 per cent. of the wage earned by the sober man, a result which, in full accord with Professor Marshall's position (*Times*, August 19th, 1910), directly contradicts Miss Elderton's and Professor Pearson's great generalization that the wage-earning capacity of the drinker and sober man is practically the same.

Coopers.

We will now take the men of another trade—namely, coopers. On the whole, they appear as a steady, sober class of artisans. The Edinburgh Committee went over the list, and finally verified the wages for six cases, striking the average weekly wage at 28s. 6d. Professor Pearson, with considerable "judicial calm," represented to the readers of the *Times* that the Edinburgh schedules give twelve coopers earning an average wage of 28s. 6d., which he simply borrowed from the Edinburgh Verification Table, and applied it to his twelve coopers wholly without justification, for the Edinburgh Committee state that it

only applied to six coopers. Nay, more, to compose his table of wage-earning capacity and sobriety he puts down opposite his twelve coopers that eight were "sober" and four drunken—a proportion, it will be seen, of two to one. Now, the Edinburgh schedules, when completely searched, show that instead of *twelve* coopers there are only *eight*, the details relating to whom are as follows:

Coopers.

No. in Edinburgh Report.	Average Weekly Wage.	Comments from Edinburgh Report Schedules.
139	31s.	"Except for the daily beer at the brewery, he keeps temperate."
150	31s.	Ditto. "Well-kept family."
209	22s.*	"Casual." "Sober."
229	Possibly 30s.*	Out of work; casual. Sober.
360	31s.	Sober. "A nice well-doing family."
388	20s.	Sober.
499	28s.	"Drinks considerably."
733	28s.	Apparently sober.

*Excluded.

To return, Professor Pearson in his table says the Edinburgh statistics give twelve coopers, of whom eight, he says, are "sober" and four drunken, and that all these twelve earn 28s. 6d. a week, whereas the actual schedules of the report give, as we show in the above table, only eight coopers, of whom seven are "sober" and one drinks. If we now take the average of their wages as stated in the Edinburgh schedules, and if we exclude Nos. 209 and 229 as cases in which, owing to the irregularity of their work it is impossible to calculate their wage correctly, we are left with six coopers whose average wage, 28s. 2d., approximates to that given in the Verification Table of the Edinburgh Committee (also for six coopers), namely, 28s. 6d. This figure, 28s. 6d., Professor Pearson as before takes for his extra six coopers, four of whom, as we have just shown, have no existence in the Edinburgh records at all, but are imaginary. Of the two who do appear in the record—namely, 209 and 229, the two we excluded for the obvious reason that it was impossible to treat their cases with accuracy, the utmost that could be said for them is that, according to the table, No. 209 on the average might earn an average weekly wage of barely 17s., and No. 229 might from the data be estimated to earn an average weekly wage of barely 23s. In neither case do these two men earn anything like the wage Professor Pearson has presented them with—namely, 28s. 6d.; and, as for his four imaginary coopers, though he gives them 28s. 6d. per week, they cannot honestly be said to earn anything at all. Thus "scientific" statistics are made by Professor Pearson. But we must now take his views on the sobriety point. As stated above, he asserts in his table that, of his 12 coopers, 8 are "sober" and 4 drink, that is a proportion of 2 "sober" to 1 who drinks. The real fact is, as the Edinburgh records, which we quote above, definitely show, there are only 8 coopers altogether, and that, of these 8, 7 are sober to 1 who drinks. So that not only has Professor Pearson given an incorrect rendering of the Edinburgh statistics as regards the number of coopers and the wages they earned, but he has also represented them as containing a considerable proportion of drinkers (one-third), whereas they are distinctly above the average of sobriety in the terribly slum population of which they form a part.

Of course, had they been as drunken as he wrongfully asserts, they would, as a well-paid group, have materially aided his and Miss Elderton's conclusion that the drunken workman is as good a wage earner as the sober man.

The most salient point, however, about this particular case of the coopers' sobriety is that it demonstrates another grave feature of Professor Pearson's statistical methods—namely, the creation of cases which are not in the Edinburgh schedules at all. In this instance Professor Pearson first created four individuals who have no existence as coopers, whatever they may have had as labourers, etc.; secondly, he represented that three of these imaginary coopers were drinkers; and, thirdly, accorded to each and all of them, a wage of the amount which belonged to other (real) individuals whose wage earning had been accurately ascertained by the Edinburgh Committee. We shall see that this "mathematico-statistical" method is not an exceptional instance, but that it is habitual with Professor Pearson, and that it is one of the chief factors which has led him necessarily to the erroneous conclusion that the wage-earning capacity, physique, and mentality of the drunkard are on a par with those of a "sober" man.

Painters.

We will now take a numerically stronger trade—that of the painters, a trade in which irregularity of work is very common, and in which, unfortunately, alcoholism is also very common. The total number of painters given in the Edinburgh records is 38. On going through the following table, which is constructed from the report schedules, we find that there are 24 cases in which a weekly average wage can be accurately calculated. The Edinburgh Committee give in their Verification Table 23 such cases, and the verified wage rate for these 23 cases they find is 25s. 6d. We obtained almost the same average wage by our calculations of the 24* cases in which such calculations were possible from the data in the schedules. We take the Edinburgh verified result—namely, 25s. 6d.—as the corrected weekly average wage for the 24 painters.

Now Professor Pearson, as we said just now, states in his wages and sobriety table that there are 37 (really 38) painters and that they earn the average weekly wage, which, as usual, he borrows from the Edinburgh Verification Table—namely, 25s. 6d. In other words, he deliberately puts this figure opposite every man, in spite of the data which are given in the schedules of the Edinburgh report (see our table below), and in spite of the direct statement of the Edinburgh Verification Table that their average weekly wage only applies to 23 cases and not to 38. To our minds such a statistical "method" is scientifically inexcusable. We will now come to the question of the average weekly wage earned by the drinking painter as against the sober painter. Of course, Professor Pearson's statement on this point in his table is wholly valueless, because, as we have just seen, he entirely neglects the data of the Edinburgh report, but we will first note that he asserts that the proportion of drunken to "sober" individuals is that of 14 to 23. Even this is not correct. The truth is that if the whole number of painters be taken, as in the table given below, the average weekly wage put down where it can be ascertained correctly from the data in the schedules, and the remaining cases denominated by a statement of the reason which necessitates their exclusion, it will be found that, as stated just now, there are 24 cases, and that, instead of the sober to the drunken being only as 2 to 3, according to Professor Pearson, they are in fact as 11 to 13, even including 2 "doubtful." And in the second place it will be found that the average weekly wage comes out for the "sober" painter at 28s. 10d. and the drinker at 20s. 10½d. We will now give the table of these facts, putting the cases into the categories of "drinking," "doubtful," and "sober," marking with an asterisk the cases made useless by incompleteness of the data. (See table, p. 80.)

The facts, therefore, as regards the sobriety of the three classes of painters are:

Sober—average weekly wage...	...	28s.	10d.
Doubtful	,,	,,	,, ...	...	26s.	5d.
Drinker	,,	,,	,, ...	...	20s.	0½d.

It will be seen from the comments we have extracted from the Edinburgh schedules that Professor Pearson has bestowed a wage of 25s. 6d. per week on fourteen individuals concerning whose real wages either nothing whatever is known, or that, whatever they may have earned when they were at work, those industrious occasions were so rare (and sometimes rendered so impossible by the man being in prison) that no average weekly wage could be accurately ascertained. Nevertheless, the exigencies of Professor Pearson's argument are great, and he accords to each of these individuals 25s. 6d. per week. Again we say that his "method" of representing the

*The Edinburgh wage table does not identify by the report numbers which were the 23 individuals whose wages they verified, but obviously they must be in our 24.

Painters (Wages and Sobriety Table).

No.	Drinkers.	Doubtful.	Sober.
27	Wages not known*	—	—
31	10s.	—	—
34	36s. Irregular*	—	—
53	36s. Irregular. "Out of work"*	—	—
61	20s. 9d.	—	—
88	—	30s. Irregular, out of work*	—
101	25s. average for year	—	—
139	12s.	—	—
162	No average possible*	—	—
169	—	30s. Apparently does not drink to excess	—
233	—	—	27s.
271	—	—	Wages unknown. An unemployable.*
289	—	—	25s.
292	—	—	37s. (34s. to 40s.)
296	—	—	30s.
325	—	Irregular. No average possible*	—
411	—	—	24s. average.
417	16s. Casual out of work*	—	—
452	21s.	—	—
464	—	Incapable. No average possible*	—
513	Casual, filthy, drinker, in and out of gaol*	—	—
539	10s. 5d.	—	—
545	Casual. Very intemperate, convicted 27 times*	—	—
566	23s. 1d. average for year	—	—
574	—	—	Paralysed. Unable to work three years.*
577	—	—	"Steady, earning a good wage," 30s. 9½d. (average between maximum 36s. 1½d. and Edinburgh average rate).
623	—	—	30s. 7½d. (25s. to 36s. 3d.)
658	Casual. No average possible*	—	—
675	Irregular. Concussion*	—	—
686	—	—	18s.
694	31s. 9d. (27s. 6d. to 36s.)	—	—
695	20s. 9d.	—	—
707	—	—	36s.
712	—	—	26s. 11d.
713	24s.	—	—
735	22s.	—	—
736	—	—	30s. 9d.
769	—	23s Formerly intemperate	—

* Excluded.

Edinburgh data constitutes a mispresentation of the published facts.

Moreover, exactly as in the case of the coopers just described, of these ne'er-do-well cases rejected by every statistician except Professor Pearson, it happens that no less than nine are proved drinkers, three are doubtful, and only two sober. It is, again, easy to see that by giving the drunkards—one of whom was convicted twenty-seven times—the full average wage, which they never earned, Professor Pearson and Miss Elderton had ultimately no difficulty in "proving" that a drunkard was just as good a wage earner as a sober man.

The real fact, however, is that the drunken painter earns about 30 per cent. less than the sober man.

Masons.

Masons form a very distinct, well-paid body of men, whose work is easily defined and cannot be confused with other callings, such as masons' labourers, masons' blacksmiths, bricklayers, etc. The schedules of the Edinburgh Report give the facts concerning fourteen masons. Professor Pearson's table, which he tells the public he constructed also from the Edinburgh schedules, contains, however, no less than twenty-two masons. Here, then, he has created eight imaginary masons and has bestowed upon each of them an average weekly wage of 34s. 1d. This average weekly wage he borrowed, as usual, from the Edinburgh Verification Wage Table, but he does not tell his readers that the Edinburgh Committee were not able to verify that wage-rate accurately for more than ten individuals; consequently, Professor Pearson applied this wage-rate without the slightest justification to two individuals, Nos. 654 and 752, for whose cases no data exist in the Edinburgh Report, and to eight others who exist only in his own imagination. To illustrate this sort of thing, which we are asked by the *Times* and "trade" newspapers to respect and admire as the product of scientific and higher mathematical accuracy, we will now give a table of the facts relating to the masons who really are contained in the Edinburgh Report.

Masons.

No. in Edinburgh Report.	Average Weekly Wage.	Comments from Edinburgh Report Schedules.
137	28s.	Drinks.
285	34s.	Drinks hard.
321	38s. 3d.	Casual; steady.
323	36s.	"Work irregular probably because of intemperance."
340	38s. 3d.	"Steady good workman" now "out of a job."
365	22s.	Irregular; "drank now and then."
367	Average impossible*	Irregular; ill six months; teetotaler.
414	28s. 11d.	Wages 35s., but works only forty-three weeks; "has drunk a good deal lately."
460	36s.	Drinks at times.
497	Average impossible.*	Drunken; idle for four months.
537	38s.	Sober.
547	33s. 8d.	Sometimes drinks.
654	Not known*	Sometimes drinks; out of work.
752	Not known*	Alcohol habits not given.

* Excluded.

From the list we have just given it appears to us that nine should be described as drinkers, four "sober," and one unknown. As far as wages are concerned, Nos. 367, 497, 654, 752 must be excluded. It is very instructive to read in Professor Pearson's "wage table" that for this class of highly-paid work there were, according to him, many more drinking masons, namely, seventeen drinkers and only five "sober." This instance makes it especially easy to see how the statistical methods he employs, and above all the free additions of alcoholic cases he creates in the mason world, raise the wage-earning efficiency of the drinker to that of the sober workman. The real facts concerning the sobriety of the two classes when taken from the list given above are as follows:

"Sober"—average weekly wage ... 38s. 2d.
Drinker ,, ,, ,, ... 31s. 2d.

Statistically it is interesting to see that the drinker drops 18 per cent. of the high wage earned by the sober mason, and that this percentage loss by the drinker corresponds with the drop shown to occur in the other trades.

Porters.

We will now take the trade of porters. Porters are referred to in the Edinburgh report under the terms porter, coal porter, street porter and railway porter. The last, the railway porter, forms, of course, a distinct class of worker of fixed and regular employment, about whom there can be no possibility of error in compiling statistics if such compilation is made with even a faint approach to accuracy. The Edinburgh Report, as Mr. Keynes pointed out in his second crushing indictment* of Miss Elderton and Professor Pearson's statistical methods, contained

* *Journal of the Royal Statistical Society*, December, 1910, p. 119.

reference in its verified wage table to one railway porter only, and the schedule stated that his wages were 18s. a week. In the Edinburgh wage table, by a misprint, this was made to read 28s. Professor Pearson multiplies this unique Edinburgh railway porter by nine, and gives them all—the one real one, another real one who is in the schedules, and seven imaginary ones—the misprint average wage of 28s. This creation of individuals who are not in the Edinburgh statistics cannot always be due to carelessness, and in this case particularly so, for it is quite clear that as he copied the misprint wage—28s.—he could only have derived it from the wage table given by the Edinburgh Committee. If he had really constructed his table from the schedules he would have found there the correct figure—namely, 18s.—opposite this man (No. 57 in the schedules). Then again, the Edinburgh wage table which he copied states quite correctly that their wage only applied to this one railway porter, and the schedules contain only one more. Where did he get the seven others from? They must have been creations, for he could not even have imagined that he saw them in the records. His never-failing imagination, however, enabled him to tell the *Times* readers (August 10th, 1910) that two of his nine railway porters drank and seven were sober.

To return now to the other kinds of porters—namely, porters, coal porters, and street porters—we have put them together in one table as below. Of porters thus grouped we find only thirteen in the Edinburgh statistics, and no other porters are mentioned therein. Professor Pearson, however, says there are seventeen. He, therefore, has invented for this trade four imaginary individuals, although asserting throughout that he is quoting the Edinburgh figures. The Edinburgh Committee verified the wage rate, showed that for eleven individuals this could be done, and the average weekly wage came out at 20s. 6d. Of course Professor Pearson, to construct his wage (and sobriety) table for the *Times* and his Supplemental Memoir, gives this average weekly wage of 20s. 6d. to all his 17 porters, the 13 real ones, and the 4 imaginary ones, in spite of the Edinburgh data. Turning now to the sobriety question, Professor Pearson makes out that of his 17 porters 9 were sober and 8 were drinkers, each of whom gets according to him 20s. 6d. Thus for this relatively low wage he naturally obtains by this "expert" method a practical equality between the wage earning of the drunken and of the "sober" porter respectively. The facts, however, are given in the table below.

Porters.

No. in Edinburgh Report.	Average Weekly Wage.	Comments from Edinburgh Report Schedules.
43 Coal porter...	24s.	"Sober and steady."
143 Porter ...	17s.	One worker says there is drink, and the police give an indifferent character.
167 Street porter	16s.	Casual. Drinks.
203 Coal porter...	18s. 2d.	Sober.
260 Porter ...	19s.	"Teetotaler"; "consumptive," "wife drinks a little."
331 Coal porter...	19s.	Casual. Drunken.
336 Porter ...	12s.	"Teetotaler; eyesight failing."
338 Porter ...	22s.	"Sober."
439	Not known*	Drunken. Out of work.
484 Porter ...	28s.	"Temperate."
527 Porter ...	20s.	"Drinks."
555 Coal porter...	21s.	"Occasionally intemperate."
696 Porter ...	18s.	Casual; hard drinker.

*Excluded.

From the table it will be seen that there are, as a matter of fact, six sober and six drunken porters, accepting the figures of the schedules and excluding No. 439, for which the data do not appear, but whom, though indeterminate and drunken, Professor Pearson has rewarded with a wage of 20s. 6d. a week. If the full wages of the two marked "casual"—namely, Nos. 167, 331—are reduced by one-fourth to obtain an average, the sobriety facts are as follows:

"Sober"—average weekly wage	...	20s. 6d.
Drinker " " "	...	17s. 0½d.

Statistically it is again interesting to see that the drinker in this class drops about 17 per cent. of the rather low wage earned by the sober porter.

We do not propose to weary our readers with any further examination of Professor Pearson's so-called wage (and sobriety) table, which he professed to construct from the Edinburgh statistics.

We have taken these trades of "gasworkers," "coopers," "painters," "masons," "porters," as examples for detailed examination only, because discrepancies from Miss Elderton and Professor Pearson's statements were so obvious among them, just as Mr. Keynes was similarly attracted by the "sweeps," "railway porters," "bookbinders," and "blacksmiths."

Since the selection of these nine trades was made purely at random, they may be taken as fair examples of the whole number, and it will be then realized what the Edinburgh records have suffered at the hands of Miss Elderton and Professor Pearson.

CONCLUSION.

Practically Miss Elderton and Professor Pearson's work amounts to a consideration of two subjects:

1. Wage-earning capacity of sober and drunken workmen respectively.
2. Effect on offspring of alcoholism in their parents.

1. *Wage earning Capacity.*

As regards the first of these subjects, Miss Elderton's and Professor Pearson's "startling" conclusion "that the drinking parents are in physique and mentality the equal on an average of the sober," or their still more "startling" addition that "the drinking parents" are "possibly a little above the standard of the sober," though having a biological application, is a question of statistics.

Our own investigation (see previous pages) of the schedules fully confirms the criticisms of Professor Alfred Marshall and Mr. Keynes, who (sneered at by Professor Pearson as "The Cambridge Economists," and accused by an anonymous writer in the *Times* and BRITISH MEDICAL JOURNAL of being "over-hasty") have stated as statisticians their estimate of Miss Elderton and Professor Pearson's work that it is worthless. Obviously this is so, for as we have shown, these authors only arrived at their generalization by three erroneous methods:

1. Disregarding the facts and precautions against error published and provided by the Edinburgh Committee.
2. Imagining and publishing statistical data where none exist in reality.
3. Disregarding the discrepancies between the conclusions arrived at by themselves.

Moreover, the Edinburgh schedules show that the drunkard earns a notably (between 15 and 20 per cent.) lower wage than the sober man.

Consequently Miss Elderton and Professor Pearson have not only erroneously represented the facts, but they have concealed the truth by a mass of mathematically formulated conclusions which, being calculated on misstated data, are necessarily also erroneous.

2. *Effect on Offspring of Alcoholism in their Parents.*

Just as the first great generalization of these authors—namely, that the drunken workman was probably even of a little more value to the State than the sober workman—has been shown to be untrue, so also are their conclusions as to the biological effects of parental alcoholism worthless. For, to trace the effects of a drug through parents to children, it is necessary to choose representative material, to provide control observations, to know the relation of the incidence of the drug-taking to the birth of the children, and to be scrupulous in terminology.

Not a single one of these conditions have these writers observed, and yet their "Memoir" has been put forward with an assumption of accuracy and truth we have never seen claimed for any scientific investigation before.

It seems to us, therefore, that these writers constitute a national danger, that their writings, whether on alcohol or tuberculosis, or any of the national questions to which

they have recently directed their attention, ought to be carefully examined, and that such of their work as shows the same indifference to fact as the Alcohol Memoirs we have discussed should be publicly withdrawn. In view of the national importance of the scientific study of eugenics and its bearing on social reforms we venture to urge that the course we have suggested is one deserving immediate attention.

Finally, the questions of parental alcoholism, of the wage-earning efficiency, physique and mentality of the alcoholic workman and his children, remain exactly where they were before Miss Elderton and Professor Pearson began publishing in May, 1910. Consequently those social reformers who have been led by their publications to believe that previous information and knowledge on this subject was wrong may rest satisfied that it is not.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF ACUTE FAILURE OF SIGHT TREATED WITH OIL OF TURPENTINE.

In a paper on the internal use of oil of turpentine which appeared in this Journal on May 23rd, 1908, I referred to the treatment of iritis by the use of this remedy in substantial doses. The treatment of inflammatory conditions of the eye by oil of turpentine dates from the year 1829, when it was first adopted by Carmichael for cases of iritis, both rheumatic and syphilitic, which showed little disposition to yield to mercurial treatment. The undoubted success of the method commended it at once to practical men, and for many years it continued to be resorted to in appropriate cases. After a time, however, as has happened to many other serviceable remedies, this plan of treatment fell gradually into disuse, and is now almost forgotten. I have spoken on the subject to many practising oculists of large experience, but have rarely found one who had even heard of this use of turpentine—none, with the exception of Sir John Tweedy, who had ever used it himself in his practice. Sir John learnt it, he told me, from the late Mr. Wharton Jones, with whom it was a favourite remedy. The following case may be interesting to oculists, as it shows very clearly the remedial value of the oil in cases where mercurial treatment has proved disappointing.

Some time ago I saw, with Dr. Leslie Earle, a little girl of 10 who, after an attack of measles some few months previously, had begun to complain of failure of sight. Dr. Earle, finding the case little amenable to treatment, had called in Sir John Tweedy, and by his advice the eye had been treated with mercurial inunctions, with the addition of iodide of iron internally to improve the general health. The patient was naturally hypermetropic, and the retina, as Sir John was good enough to report to me, was in a congested oedematous state in the neighbourhood of the macula—a condition which hardly, indeed, amounted to retinitis, but was a cause for anxiety as the child's sight was growing steadily worse and her general health had begun to suffer. It was for this latter condition that I was asked to see the patient. I found her thin, anaemic and fragile looking, and was told that a blood count had shown a great excess of large lymphocytes (41 per cent.). I could, however, discover no sign of organic disease. With Sir John Tweedy's consent the form of medication was altered. The inunctions were stopped and the child was made to take two drachms of oil of turpentine with an equal quantity of castor oil every night at bedtime. This change was followed in the course of only a few days by great improvement in the sight and general health. The normal appearance of the retina, indeed, was only slowly restored, but the acuteness of vision quickly returned and the sight was soon as good as ever. Some months later I heard that the condition of the patient both as to sight and general health was in every way satisfactory. This striking improvement in both local and general conditions followed so quickly upon the change in treatment that we all attributed it, and I think rightly, to the action of the turpentine. The child took the remedy continuously every evening for one month. It produced one action of the bowels on the day following each dose, but there was no sign of irritation of the kidneys or other unpleasant symptom. At the end of the month the oil was discontinued and perchloride of mercury was given in conjunction with perchloride of iron three times a day.

In using this method of treatment it is important to remember that the turpentine must not be given in smaller quantities than those recommended above, and that it should be combined with an equal quantity of castor oil and given once in the twenty-four hours at bedtime. Our object, which can only be attained by a substantial dose, is to act upon the bowels and not upon the kidney. To be of use, therefore, the dose must be an aperient one, and as turpentine is by no means a drastic purgative it may be given in this quantity with perfect confidence that we are doing no harm to the patient as long as it produces an aperient effect. If it do not produce this effect, the dose should be increased or the draught, as above, given in the morning as well as at night. In the case of patients of the age of the child referred to I have often given half an ounce of both oils every night with great benefit. It is only when the remedy does not act upon the bowels—in other words, when the dose is insufficient—that any risk is run of irritation of the kidneys; but even if this symptom occur it is of no consequence, as it ceases quickly when the remedy is discontinued. I am convinced that in laying aside this method of medication oculists have let slip a safe and useful remedy which is capable of doing them good service in obstinate inflammatory or semi-inflammatory conditions of the eye such as that which forms the subject of this memorandum.

Eustace Smith, M.D., F.R.C.P.,
Senior Physician to the East London Hospital for Children.

A CASE OF ECLAMPSIA TREATED BY SALINE INFUSION.

The patient, a poorly nourished woman, aged 34, had previously four confinements, all normal, and one miscarriage. Her present confinement at eight months occurred before the arrival of the midwife, who noticed nothing abnormal, and after attending to the mother and child left. Five hours later the patient was seized with convulsions; the midwife was recalled, and sent for me.

When I arrived the patient was unconscious, pale, pulse imperceptible at the wrists, the heart beats irregular in force and frequency, but very rapid, about 200 per minute; the extremities were cold and flaccid, respiration irregular and stertorous. (There had been no excessive haemorrhage.) At intervals of from five to ten minutes she developed convulsions of an epileptiform character; they commenced with a tonic stage, during which the face became cyanosed, the limbs rigid and hands tightly clenched, and blood oozed from the vagina.

A clonic stage then commenced, during which the convulsions were general; the duration of the whole fit was about five minutes. Hot-water bottles were placed at her feet, and I proceeded to infuse a solution of normal saline at the rate of about two pints per hour into the subcutaneous tissue of the axillae and thighs, the total amount infused being 4 pints. During the infusion her condition gradually improved. She had one or two more fits, but these became much less severe. When the infusion was stopped she became conscious, though very drowsy, her respirations quieter and more regular, the pulse steady and beating at the rate of 90 per minute. There was no subsequent return of the fits. The urine examined in a specimen obtained by catheter after the infusion of saline showed 3.5 per 1,000 by Esmarch's albuminometer.

The points of interest in this case are, I think, the length of time after delivery before the onset of any symptoms—namely, five hours. When the infusion of saline was commenced the patient was *in extremis*, and the case if left to itself could only have terminated fatally, and that in a very short time. The patient ultimately made a very satisfactory recovery.

Monmouth. A. Keith Armstrong, M.R.C.S., L.R.C.P.

FATAL CASE OF MELAENA IN THE NEWLY-BORN.

A CASE which I have recently met with presents features which, on account of their rarity, seem to me worthy of mention.

A male child (of, as far as I could find, exceedingly healthy parents) was delivered by me by means of forceps on October 8th, 1910, after a protracted labour caused by uterine inertia. The mother (primipara, aged 31) recovered from the effects of the labour quite satisfactorily, and is still doing well. The child—a fine, apparently healthy infant, weighing 8 lb. at birth—took the breast well, and to all appearances thrived for three days.

On the fourth day, when I saw it, it was markedly jaundiced, and I was informed by the nurse that it had just passed a large quantity of black blood per rectum. This again took place while I was present, and I saw the discharge, which flowed away easily and without straining, and closely resembled black-currant jelly. There had been no vomiting, and the child still continued to take nourishment well, although it appeared somewhat restless. There was no wasting, and the abdomen was perfectly flaccid, there being no sign of tumour or any apparent tenderness. The liver did not seem abnormally large. The skin did not show any haemorrhagic spots, and there was no rise of temperature. The discharge continued, and, in spite of treatment, death occurred suddenly six hours later.

I was, unfortunately, unable to obtain a *post-mortem* examination.

On referring to such works as Goodhart and Still's *Diseases of Children*, and Osler's *Practice of Medicine*, I find that the former describe similar cases under the name of "Melaena neonatorum," and the latter under that of "Morbus maculosus neonatorum."

As these authorities both agree concerning the rarity and fatality of the disease, I have ventured to report the above case.

WILLIAM J. LORD, M.R.C.S.Eng., L.R.C.P.Lond.

Faringdon, Berks.

ECZEMA CAPITIS.

I HAVE lately had a case of the above troublesome complaint in a girl aged 12 years, with no previous history of seborrhoea. The whole of the scalp was affected when I first saw the child, and the head was covered with scab, which, when removed, left a raw, inflamed surface, from which serum freely oozed. The disease extended behind both ears, and fissures had developed. Both meatuses were attacked. No other parts were affected. I put the child on cod-liver oil, and then tried one remedy after another with failure to cure. Many of the things I tried made it worse. I clipped the child's head with clippers at least a dozen times, and often got a certain amount of improvement; but then came a relapse, and in a few days the case was as bad as ever.

Finally I made up an application consisting of:

Acid. salicylic.	...	...	...	...	ʒj
Ol. eucalypti	...	...	...	...	ʒj
Ol. olivae ...	...	...	...	ad	ʒvj

and this I rubbed into the scalp twice a week. A speedy and, so far, permanent cure has resulted. I attribute it to the eucalyptus oil, as I had tried salicylic acid in ointment and in lotion before. The ears I syringed with a carbolic solution of 1 in 80, and then applied the above oil to the meatus by means of a pledget of cotton-wool on a probe. I also dipped a strip of gauze in the oil and placed it behind each ear to prevent the ear from touching the scalp.

For more than a year this child had been coming to me for treatment, all in vain. Now in about three weeks a cure has been effected. I hope others will try this remedy. They will not find it in the textbooks.

Dr. McWalter asks, "Is eczema on the increase?" Judging from my own experience, I should say, "No." But then one nowadays excludes probably cases of seborrhoea and impetigo which, twenty or more years ago, would have been dubbed eczema.

Chadwell Heath. T. REUELL ATKINSON.

A FATAL CASE OF INTRAPERITONEAL HAEMORRHAGE FROM AN UNUSUAL SOURCE.

AT 5 a.m. I was called to see Mrs. J., aged 35. She was dead when I saw her at 5.20 a.m. The history given at the inquest was as follows: She was nine months pregnant and expecting her confinement. The previous day she had done a hard day's work washing, and finished up by moving a heavy mangling machine across the room. Late in the evening she did not feel well, and had some pain in the abdomen. Thinking that labour was coming on, she sent for the midwife who was to attend her. The nurse came and said that there were no signs of labour. The patient had a restless night, and the pain got worse in the early morning.

A *post-mortem* examination was made the same afternoon. The patient was a short fat woman. There were no signs of violence. Rigor mortis present. On opening the abdomen a large quantity of fluid blood escaped from the peritoneal cavity. The uterus was intact and contained a full-term male fetus. There was an interstitial fibroid, the size of a cocoanut, on the right side. Appendages normal. Liver pale and fatty, but uninjured. Large quantity of blood clot in the left hypochondrium. Mesenteric vessels normal. The spleen was normal; the tissues behind the gastro-splenic ligament were considerably ecchymosed and torn up. As far as I could make out by dissection, a branch of the splenic artery had given way just before it got to the hilum. The lungs were normal. The stomach and oesophagus were normal. There was no trace of aneurysm. Kidneys rather hard, but fairly healthy. The heart was fatty, and there was some recent endocarditis on the mitral valve. The question then arose, Why did this particular artery give way, and what share in the event did the endocarditis have? Was it (1) a previous embolism and consequent weakening of the vessel wall with rupture during the strain of moving the mangle? or (2) was the passage of the embolus the determining factor of the rupture by its impact in the narrow part of the vessel during the period of increased pressure? Against the first theory is the fact that there was no infarct in the spleen. There was no atheroma in any of the vessels to account for the weakening. If a medical man had been called in earlier, it would have been a case of some difficulty to treat surgically, the abdomen being so filled up by the uterus.

H. B. WILLOUGHBY SMITH, M.B., F.R.C.S.

Gainsborough.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMFIRE.

METROPOLITAN ASYLUM, CATERHAM.

EXTRA EXTRINSIC HEPATIC LOBE.

(By J. P. PARK INGLIS, M B., Ch.B., Assistant Medical Officer.)

THE following case seems to me of some interest on account of the rareness of the condition which was found *post mortem*.

Physical Signs.

The case is that of a woman admitted to Caterham Asylum some nineteen years ago suffering from chronic mania. For the past few months the patient had been entirely confined to bed owing to her feeble physical condition and to advanced cardio-vascular disease. She came under my notice early in July of this year; she was then a feeble emaciated old woman, with markedly atheromatous arteries and consequent cardiac hypertrophy; she looked ill and wasted, but no further symptom than "pain in the back" could be elicited from her, and this pain was attributed to haemorrhoids. After a thorough examination, I found that a tumour was palpable in the upper part

of the abdomen, to the left of the middle line of the body, and in the region where the coeliac axis artery leaves the aorta; this tumour seemed to me to be about the size of a crown piece, and also to be both expansile and pulsatile; there was no pain on pressure, and the patient did not seem to experience any discomfort by manipulations. On auscultation over the tumour I thought a systolic bruit was audible; the pulses at the ankles were equal; no further signs nor symptoms were ascertained. The patient died on September 2nd, aged 75 years.

Post-mortem Examination.

At the *sectio*, which I conducted, a most interesting condition was found; lying over the region where the coeliac axis artery leaves the aorta was a rounded piece of liver tissue about the size of a crown piece or rather larger, and about half an inch in thickness; this rounded piece of liver tissue was quite distinct from the liver, was enclosed in a capsule similar to that of the liver, and was connected to the left extremity of the liver by a mesentery of 1 in. to 2 in. in length; no distension of the gall bladder was found, nor were gall stones present. The liver was not more enlarged than was due to its congestion owing to the cardio-vascular disease from which the patient suffered.

Remarks.

This, then, was the tumour which in life was palpable. The situation over an artery accounted for its being pulsatile; pressure on the aorta, with slight consequent constriction of the lumen of that part of the vessel over which this tumour lay, may account for the "systolic bruit"; and the nature of the tumour—namely, liver tissue—accounted for the absence of any marked signs and symptoms. In vol. iii, p. 321, of the *Medical Review*, Sir Frederick Treves describes a condition of floating lobe of the liver. He states that floating lobe is associated with a distended gall bladder, that the tumour is palpable in the right side of the abdomen or in the right flank, and that there are marked symptoms—pain in the back, nausea, constipation, and neurotic manifestations; the tumour is also tender on pressure. Sir Frederick Treves points out that such cases are usually erroneously diagnosed—such as movable kidney, omental tumour, hydatid cyst, new growth, abscess, distended gall bladder being mistaken for this condition. Riedel assumes that a distended gall bladder as it enlarges draws a tongue of liver tissue with it, and hence the floating lobe. Riedel and Terrier have shown that where exploratory operations have been performed, and a condition of floating lobe with associated distension of the gall bladder found, if cholecystotomy be done, the floating lobe with its consequent symptoms disappears. It would seem, then, that this condition of "floating lobe" is acquired, due to distension of the gall bladder, and, in cases where accurate diagnosis has been made, curable by the operation of cholecystotomy. The condition in the patient at Caterham does not seem to me in any way to be an acquired condition; the tumour was discrete from the organ of the liver, was not associated with marked symptoms nor with a distended gall bladder, was palpable to the left of the middle line of the body in contrast to the floating lobe, and had a definite capsule and mesentery. In my opinion the condition found *post mortem* in the patient at Caterham was that of a congenital malformation.

My sincere thanks are due to my chief, Dr. P. E. Campbell, whose permission I have to publish these few notes.

A MEETING of patients, both old and new, of the Pendyffryn Hall Sanatorium, Penmaenmawr, was held on January 7th, when a sundial was unveiled to perpetuate the memory of the late Dr. Morton Wilson, who founded this sanatorium, one of the first to be established on the Nordrach system in this kingdom. Dr. Dobson, the present Medical Superintendent, officiated at the unveiling, and said a few appropriate words.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are Surgeon-General Hieronymus Laub, for many years Director-General of the Medical Service of the Danish army; Dr. Hans Goldschmidt, of Berlin, specialist in urinary diseases, aged 58; Dr. F. A. Suter, Professor of Surgery in the University of Lima; and Dr. Profeta, Professor of Dermatology at Genoa.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

BIRMINGHAM BRANCH:

CLINICAL AND PATHOLOGICAL SECTION.

November 25th, 1910.

Dr. MELSON in the Chair.

Chorion-epithelioma.

DR. EDGE showed a specimen of chorion-epithelioma from a woman aged 45. The uterus was enlarged. There was a mass on the right side, which was thought to be an inflamed appendage. The uterus was curetted, causing perforation of the uterus; an immediate laparotomy was performed; free abdominal haemorrhage was found; subtotal hysterectomy was done. Several brown masses in iliac fossa and peritoneum, evidently secondary growths, were found. The patient remained well at the date of the report, two months after operation.

Grape-like Tumour of Cervix.

Dr. THOMAS WILSON showed a grape-like tumour of the cervix, from a single girl aged 24. At the age of 19 a mucous polypus was removed from the patient, but was not microscopically examined. She remained well for three years. For the last two years she had had a blood-stained discharge, with menorrhagia, and occasional lower abdominal pain. She had lost 20 lb. in weight. She was admitted to the General Hospital February 25th, 1910. Wertheim's abdominal hysterectomy was performed. The specimen showed polypoid grape-like masses from the cervix, and in the cervical canal, similar masses upon back of uterus, left broad ligament, and left ovary. Coley's fluid was injected every second day for two months after discharge. The patient still remained well. Microscopically the growth was a mixture of gland acini of simple type and a rich stroma of spindle cells.

Carcinoma of Colon.

Mr. GILBERT BARLING showed three specimens of carcinoma of the colon, all columnar celled.

1. From a man aged 70. Constipation eighteen months; hemipiegia two years ago; loose, blood-stained motions at intervals; two attacks of incomplete obstruction in January and March, 1910. Doughy abdominal mass. Laparotomy in March, 1910. Large intussusception from caecum to middle of transverse colon, reduced; malignant growth at the caecal valve. Six inches of ileum and first 12 in. of colon excised. Ends closed and lateral anastomosis made. Good recovery.
2. A woman, aged 78, had partial obstruction in May, 1910. Movable tumour in abdomen. Laparotomy May 15th, 1910, in left semilunar line. Had two malignant structures, one just below the splenic flexure, a second 3½ in. lower down; glands in mesentery enlarged; 8 in. of colon removed, ends closed; lateral anastomosis made. Patient made a good recovery after some suppuration of wound.
3. From a man aged 66. Had lost 2 st. in six months; loose motions, but no obstruction; mobile growth to right of umbilicus. Laparotomy July 8th, 1910; intussusception of ascending colon into transverse colon; glands in mesentery enlarged; whole of ascending colon excised, ends closed; lateral anastomosis between ileum and transverse colon; faecal fistula formed, now gradually closing. Good recovery.

Myoma removed by Morcellement and Enucleation.

Dr. PURSLOW showed a specimen of a large myoma removed by morcellement and enucleation from a married woman aged 45. She was sterile. For two years menstruation had been irregular and scanty, followed by amenorrhoea for six months; then she had a severe flooding one week before her admission to hospital. The cervix was dilated about 3 in., and protruding through it was a hard tumour. There was an abdominal mass continuous with the cervix, reaching well above the umbilicus. The physical signs very much resembled, on first impressions, those of a woman in labour. A paravaginal incision was made. The cervix was split, and a large myoma was removed by morcellement and enucleation. The patient was discharged in two weeks.

Carcinoma of Jejunum.

Mr. HEATON showed a specimen of carcinoma of the jejunum, removed two weeks before from a man aged 41, who had suffered from occasional attacks of colic with rapid wasting during the past six months. By inspection about every twenty minutes a tumour appeared in the left iliac fossa which slowly rolled across the abdomen to the right iliac fossa, with visible peristalsis. The stomach was enormously dilated; there was marked stasis and copious vomiting from time to time. Median laparotomy revealed a movable tumour high up in the jejunum, with enlarged glands in the mesentery. The stomach and all the small intestine proximal to the growth was dilated. Six inches of the jejunum was excised, the ends closed, and a lateral anastomosis was made. Microscopically the growth was a columnar-celled carcinoma; the enlarged glands showed hypertrophy, but no malignant invasion. The patient was doing well.

Specimens.

Mr. FURNEAUX JORDAN showed two specimens:

1. Red degeneration in a myoma from a single girl aged 26, who thought that she was pregnant. She gave a history of three weeks abdominal tumour. Some instrument had been passed into the uterus previous to her admission to hospital, followed four or five days later by severe lower abdominal pain, accompanied by a temperature of 103°. A supravaginal hysterectomy was performed early in November, 1910. The tumour, which was an interstitial myoma about 6 in. in diameter, showed early red degeneration. Dr. Mackey took cultures from the centre of the growth, and found organisms resembling *Bacillus xerosis* and *Micrococcus catarrhalis*. The tumour showed the usual appearances, histologically, of red degeneration. No abrasion could be found upon the mucous membrane of the uterus to account for the infection.
2. Sarcoma of the uterus, from a woman aged 27, married two years, no children. Severe menorrhagia with dysmenorrhoea for eight months. No loss of flesh; tumour reached to umbilicus; movable. Supravaginal hysterectomy in November, 1909. The patient remained well one year later. The tumour was an imperfectly circumscribed tumour in the anterior uterine wall 4½ in. in diameter. The greater part of it was oedematous, joining small cysts in places. The uterine cavity was elongated and the tumour bulged partly into it. Microscopically the tumour was a spindle-celled sarcoma undergoing myxomatous degeneration.

Reports of Societies.

MEDICAL SOCIETY OF LONDON.

Monday, January 9th, 1911.

Mr. CHARTERS J. SYMONDS, President, in the Chair.

Ocular and Visual Conditions in Medical Cases.

MR. PERCY FLEMMING, in a paper on cases of medical interest met with in ophthalmic work, said, without denying the importance of hypermetropia and astigmatism as factors in the production of headache, his experience led him to think that such a causal connexion was apt to be too easily assumed. Headaches were common and hypermetropia very common in this country, and it was easier for a patient complaining of headaches to have his eyes seen to than to make an exhaustive examination to ascertain if there might be any general cause for the headaches. There were mixed cases, where a condition of debility made a slight error of refraction more potent to produce headache than if the individual were robust and strong. One should have clearly in mind the characteristics of a hypermetropic headache before coming to the conclusion that a headache was due to an error of refraction. Most commonly the headache was frontal, more particularly above each orbit, but it was not uncommon for the pain to be referred to the back of the head and neck. A very characteristic feature was that the patients waked up with headache, which improved after breakfast and might be absent during the day if the eyes were not much used, but would be increased or brought about by the use of the eyes for near work. Of those characteristics, perhaps the one that was least well known was the occurrence on waking, and it was frequently supposed that the eyes could not be the cause of a headache if the latter occurred after a good night's rest. The explanation was that the ciliary muscle had been relaxed during sleep, and the very act of waking was the act of looking at some near objec-. Unless the headache in question presented those features, one should hesitate about correcting a half or quarter D. of hypermetropia or astigmatism. On the other hand, if the headache was ocular in origin no error of refraction was too insignificant to correct. The crucial test as to whether a headache was truly ocular in origin was the use of atropine, which by paralysing the accommodation annulled the headache; but for obvious reasons one could not apply that test in all cases. Dr. JAMES TAYLOR, in a paper on the same general subject, said that inequality of pupils was not necessarily of grave significance. The sixth nerve frequently suffered from accident, probably because of its prolonged and exposed course—for example, fracture of the base. Third nerve paralysis, when isolated, was usually the result of syphilis, and was noted sometimes in tabes, sometimes as a precursor of general paralysis. It also occurred in the condition known as *migraine ophthalmoplégique*, probably as a result of an actual lesion of the nerve. Optic neuritis occurred most commonly as a result of intracranial tumour. In spite of assertions to the contrary it was frequently an early sign, and the impairment of vision which it caused might be the first thing to excite the attention of the patient. It also was said to occur in anaemia, and as a result of other toxic conditions such as influenza. The long subsequent life of many who had suffered from retinal thrombosis would seem to indicate that it did not necessarily imply a serious general condition. Embolism of the central artery of the retina occasionally occurred after diphtheria without any recognizable sign of heart disease. Bitemporal hemianopia was always the result of a lesion at the chiasma.

LIVERPOOL MEDICAL INSTITUTION.

Thursday, January 5th, 1911.

Dr. T. R. BRADSHAW, President, in the Chair.

Diagnosis of Subphrenic Abscess.

MR. FRANK JEANS, in a paper on subphrenic abscess, said he had operated with complete success upon three cases recently, one being probably pneumococcal in origin, one following appendicitis, and one possibly arising from an infection of the kidney. The diagnosis was often difficult and the etiology obscure. Appendicitis and gastro-duodenal ulcers accounted for more cases than other abdominal causes. In diagnosis he had derived great benefit from radiography. The transpleural operation, performed as far back as possible, was the best and most usually applicable. He used a very large rubber drainage tube at least 1¾ inches in diameter. The use of the aspirating needle was condemned. It was of great importance to obtain a vaccine from the material removed, since the case might become chronic. In the discussion which followed, the general opinion of the surgeons was that the exploring needle should not be used unless the patient was already prepared for an operation. The President and other physicians, however, maintained that its use in some cases was necessary. Dr. JOHN HAY thought that oedema of the chest wall was more likely to be present in subphrenic than in pleural collections of pus. Dr. WARRINGTON considered that, excluding those cases in which the pleura had become infected, the important guide was the recognition of normal, or exaggeration of normal, signs above a somewhat sharply-defined line of abnormal thoracic signs. Mr. LARKIN said that he had several cases in which a left subphrenic abscess had arisen from infection due to oesophageal injuries from foreign bodies.

Knee Injuries.

Mr. W. H. BROAD, in a note on the exercise treatment of knee injuries, advocated a much earlier resort to massage than was usually practised, even when considerable synovitis was present. Many of his patients had been persons suffering from severe football injuries.

Intestinal Fistulae.

Mr. G. P. NEWBOLT showed a patient whom he had observed for many years, and on whom he had performed many operations for intestinal fistulae, due to tuberculous peritonitis. A considerable amount of the intestine had now been resected from time to time, and the abdominal wall had become closed. Mr. R. W. MURRAY pointed out the danger of closing both ends of a piece of intestine.

Reviews.

PHARMACOLOGY.

THE appearance of the ninth edition and thirty-second thousand of Sir WILLIAM WHITLA'S *Elements of Pharmacy, Materia Medica, and Therapeutics*[1] justifies the prediction of success which we made in reviewing a former edition. The new issue will maintain fully the reputation which the book has made for itself. We are impressed with its wide scope. There can be but little information in connexion with the prescribing, the preparing, the dispensing, and the administering of medicines, which is not contained within it. Were we to presume to offer a suggestion to the writer of a volume which has proved so successful, we should submit that the few lines describing each of the official remedies might with advantage be placed at the head of the paragraph on the Therapeutics of the drug, the sections headed Official Remedies and Therapeutics respectively being incorporated into one another. The work is designed for ready reference, the drugs being arranged alphabetically, and such a plan would often save the reader from looking up the same medicine in two parts of the book. This is virtually done in Part V, consisting of two hundred and twenty-seven pages describing non-official remedies, including antitoxins. The information in this part will prove very useful to medical men, by enabling them to appraise the value of many of the much-vaunted unofficial drugs from a source independent of the pamphlets sent round by the vendors. For the benefit of those who do not know the book, we may mention that it contains full and clear information about prescription writing and incompatibles, and an excellent index of poisons. The section on dispensing, comprising fifty-seven pages, is good, and gives practical directions for the making of cachets, suppositories, and other pharmaceutic devices. We wish that we had had the volume at hand when we were first qualified and found ourselves alone in a country doctor's dispensary. About two hundred pages are devoted to therapeutics, including pharmacology, and this is the most valuable part of the work, for in it we come nearest to the experience of the writer. The information given is adequate, clear, and very practical. The accounts of the therapeutics of opium, of mercury, and of the use of leeches, tell precisely what we want to know when about to use these remedies. We note that rhubarb and podophyllum are still described as cholagogues, and that no mention is made of the wide use of sodium bicarbonate in diabetes mellitus. The book is a comfortable size for the hand, though becoming a little stout, as is only to be expected in a work which has been growing in age and respectability for nearly thirty years.

The publication of a textbook upon pharmacology from the pens of Professor H. H. MEYER of Vienna and Professor R. GOTTLIEB of Heidelberg[2] is certain to arouse interest. It happens comparatively seldom that those engaged in research have both the time and the inclination to write a connected account of the subject they profess, so that textbooks too often come to be written secondhand. The volume before us can be open to no such criticism, for its authors have a practical knowledge gained by years of laboratory work, whilst the book is also written with a full comprehension of the relation of pharmacology to medical practice, and justifies its title—experimental pharmacology as the foundation of therapeutics. With this view, the chapters are not arranged according to the chemical structure of the drugs, but according to the system or organ of the body upon which their action is most manifest. There are, for example, chapters on the pharmacology of the central nervous system, of digestion, of respiration, of the circulation, of the kidneys, of the blood, and of the eyes. Such a classification has its advantages and its disadvantages, among the latter being that to obtain a complete account of many individual drugs it is necessary to consult more than one chapter of the book. On the other hand, the repetition of the same headings, such as "nervous system," "respiratory system," which becomes so tedious in textbooks on pharmacology, is avoided and the book made more readable. On the whole, physicians will appreciate the plan followed. Probably the pharmacology of alcohol has aroused more interest than that of any other drug. The authors inquire whether the paralysing effects of alcohol are preceded by true stimulation, as is the case with some poisons. They subscribe, with caution, to the modern view that the apparent brain stimulation of alcohol is to be attributed to the removal of the inhibition of the higher cerebral cells, whilst pointing out that there may be some direct stimulation of lower centres. If, however, it is allowed that the higher centres cannot be shown to be stimulated before they are paralysed, it seems a little unnecessary to suspect that the nerve cells of the basal ganglia and of the cord react in a different manner. In the account of the experiments upon the effect of alcohol on muscular work, we notice that Rivers's observations are not mentioned. In a paragraph describing the sensations of well-being produced by the drug, the writers stray from their pharmacology to deliver a general opinion upon the time-honoured method of making glad the heart of man. On the question of its value as a foodstuff, the authors conclude that alcohol is a food which is rapidly available, but a bad source of energy, and only to be used in necessity, for the reason that in practicable doses it furnishes less energy than other foods, that it is not stored but burnt at once, and, most of all, that it is poisonous. The account of the action of digitalis, as we should expect from the authors, is especially clear and informing. The last chapter is upon the medicines which influence the causes of disease; a glance at it reminds us that though we possess but few specific remedies, yet the list is growing. The chapter includes the external antiseptics, the anthelmintics, quinine, atoxyl, the salicylates, mercury, and the antitoxins. The book is carefully and exhaustively written. The relations of the functions discussed to physiology and to pathology are dealt with fully; the illustrations and curves are plain, and the latter are printed the right way on—that is to say, we are not asked to read curves from right to left. The authors are alive to the recent work done in other countries than their own, and, with some notable omissions, have incorporated British work in their references. The book is worthy of the position and reputation of its writers, and will at once rank as a standard work upon pharmacology.

[1] *Elements of Pharmacy, Materia Medica, and Therapeutics.* By Sir William Whitla. London: Baillière, Tindall, and Cox. 1910. (Cr. 8vo, pp. 686; illustrated. 9s.)

[2] *Die experimentelle Pharmakologie als Grundlage der Arzneibehandlung.* Ein Lehrbuch für Studierende und Aerzte. By Dr. Hans H. Meyer and Dr. R. Gottlieb. Berlin and Vienna: Urban and Schwarzenberg. 1910. (Sup. roy. 8vo, pp. 499, 61 illus., 1 col. plate. M.12.)

INDICATIONS FOR OPERATION.

FOUR years ago we reviewed (September 29th, 1906) the English translation of Professor SCHLESINGER'S Indications for Surgical Operations in Internal Diseases, and we then expressed our appreciation of the care with which the book was prepared and of its general utility to the practitioner. We are therefore glad to see that it has reached a second edition.[3] Professor Schlesinger is not an operating surgeon, and consequently may be expected to look at the question he discusses from the standpoint of the general practitioner; but he congratulates himself upon having satisfied surgical opinion, and he appears to us to incline generally to that side. He says, however, quite truly that there are many questions upon which medical and surgical views are no longer divergent. He is on some subjects singularly conservative in the surgical sense that is to say, he advocates thoracentesis for serous effusion only when (1) life is in danger; (2) if the fluid remains after many weeks at the same height, and not before the third week; (3) when the patient's

[3] *Die Indikationen zu chirurgischen Eingriffen bei inneren Erkrankungen, fuer den Praktiker bearbeitet.* Von Professor Dr. Hermann Schlesinger. Mit einen Anhage von Professor Dr. Julius Schnitzler. 1910. Jena: Gustav Fischer. (Sup. roy. 8vo, pp. 623. M.12.)

sufferings are unbearable. We believe that earlier withdrawal of the fluid by siphoning is attended by less risk of permanent crippling of the lung, and we think he exaggerates its danger, as in thirty years' practice we have never had to regret early intervention. In operations for stomach conditions, pyloric obstruction, when definitely shown to exist, should be a sufficient indication for gastro-enterostomy. His discussion of the advantages and disadvantages of operation in Hirschsprung's disease might be better; he does not mention either Schreiber's or Hertz's case of recovery under medical treatment. Under liver tumours he says, "If a palpable liver tumour can be made out and there is decided suffering attributable to the tumour, with no evidence that it is of metastatic origin, an exploratory incision is justified." Considering the comparative frequency of primary cancer of the liver this rule goes too far. Few would agree that "an operation is justified in acute nephritis when oliguria or anuria is present with pain in the back and tenderness over one or both kidneys, the general condition being good." On the burning question of movable kidney he is conservative; the only absolute indication for nephropexy is "temporary or persistent blocking, hydronephrosis, intermittent albuminuria, and casts caused by kinking or twisting of the hilus." The presence of acute painful attacks, with haematuria and oliguria, make nephropexy expedient but not urgent; "if dietetic, mechanical, and hygienic treatment has failed, and there is marked pain, which can only be referred to the loose kidney and is not due to any other organ; when, moreover, there is no complication or any definite neuropathic condition present, the operation is admissible, but by no means called for." An operation may be justified in the case of a worker whose livelihood depends upon his following his occupation, but who is prevented from doing so by pain. Operation is not indicated because a "nervous individual attributes a series of sufferings to the loose kidney, even though he should wish for the operation, as the suggestive effect often lasts only a short time." Contraindications for the operation are the presence of prolapse of any other organ or general ptosis of the abdominal viscera. The general results of the operation may at first appear good, but are often not so permanently; in many the symptoms are in no way affected, and in not a few the mobility of the kidney is as great as ever after a shorter or longer interval. In Graves's disease, apart from pressure upon the trachea, operative treatment is indicated "where there is rapid progress of the disease, in spite of energetic internal treatment." There is a general agreement among physicians and surgeons that "cases should not be operated upon before internal treatment has had a fair trial, but the operation should not be postponed until the patient has become cachetic"; "in mild cases, where internal treatment is without result, the suffering is marked, and the working capacity of the patient compromised, an operation ought to be tried." An additional reason for undertaking the operation is that the patient is "unable to take care of herself, and urgently desires the operation." On the authority of Professor Lépine, he holds that premature labour should be induced when diabetes is discovered in pregnancy and careful diet is without effect, or the sugar increases in amount, and acetone and diacetic acid appear in the urine; he adds that this indication may be more readily accepted, as abortion or still-birth occurs so frequently in diabetes; nevertheless, it is a rule which we believe to have little acceptance in this country.

DISEASES OF SUPRARENAL CAPSULES.

THE monograph by Professor NEUSSER and Dr. WIESEL[4] on diseases of the suprarenal capsules, issued as part of Professor Nothnagel's *Spezielle Pathologie und Therapie*, has reached a second edition, and has been fully revised and enlarged. The first edition was published twelve years ago by Professor Neusser only, but in this he has had the assistance of Dr. Wiesel, who has made important contributions to the subject. Time, they say, has rendered necessary certain additions and has made obsolete some part of the earlier work, yet all the problems connected with these organs are not yet solved and many remain the subjects of keen controversy. The monograph commences with a description of the development of the capsules which has an important bearing upon their function, the cortex and medulla being derived from different embryonic layers; the supernumerary adrenals, to which a good deal of attention has been directed in recent times, are composed of cortex or medulla, and sometimes of both. The chromaffin cells, which are the characteristic tissue o the medulla, belong to the sympathetic system, and are found scattered in masses between the kidneys, in front of the aorta, the sacrum, and the rectum; the bulk of chromaffin cells in the scattered masses is equal to that contained in the suprarenal capsules themselves, and they have a definite physiological significance and importance, these chromaffin cells secreting adrenalin. Although they are derived from the sympathetic system they are not nerve cells in the true meaning of the term but are glandular. These accessory "paraganglia" may be easily mistaken for lymphatic glands, but can be distinguished after soaking in a fixing solution of chrome salts, when they become deeply stained brown or yellowish-brown, the colour being most marked after washing with water and clearing with glycerine. The authors are unable to fix the exact time when the chromaffin cells first make their appearance in the embryo, but it seems to be a fact that a large part of the embryonic chromaffin tissue undergoes retrocession. They recognize three kinds of accessory adrenals: (1) those formed of cortex and medulla—true paradrenals; (2) those formed of cortex only, called by them metadrenals; and (3) those formed of medulla only, composed of chromaffin cells—the paraganglia already mentioned. The second kind are said to be the most common; they undergo hypertrophy when the suprarenal capsules are themselves destroyed, but the physiological function of the cortex being still unknown their significance remains obscure. The authors give a clear account of the progress of the physiology of these organs, how light was thrown upon it by pathology, and they describe the disseminated tumours which have been found to be composed of chromaffin cells. The latter part of the book is devoted to the description of the diseases of the suprarenal capsules, of which naturally Addison's disease occupies the larger part. The authors do not accept the French doctrines that attribute arterio-sclerosis to hypertrophy of the adrenals (Josué), as Landau and Wiesel have been unable to confirm the alleged association, neither do they agree that there is a true hypertrophy of the cortex in chronic nephritis, or in any renal disease. It may coincide with the presence of hypertrophy of the left ventricle in chronic nephritis, or in aortic incompetence; the medulla may be double the normal width with many newly formed chromaffin cells, but the association is not constant, and the relation remains obscure. Partial nephrectomy leads to increase of the medulla (Schur and Wiesel), but tumours of the medulla are found sometimes associated with hypertrophy of the left ventricle, so that in some cases the renal hypertrophied heart may be the consequence of adrenal hyperplasia. Atrophy of the adrenals may be a result of tuberculosis, syphilis, or simple inflammation, or of haemorrhage into the substance of the gland, which is often seen in newly born infants but its cause is unknown; it may also occur after injury, acute infections, and in paralysis, tabes, etc. After diphtheria numerous necrotic foci are found in these organs, and may be a cause of death, as in a case mentioned by Wiesel, where the heart's muscle was healthy although death was from heart failure. Inflammatory conditions are also seen in sepsis and other infections. The neoplasms of these organs have been well described by Winkler in his monograph (see BRITISH MEDICAL JOURNAL, April 19th, 1910, p. 875). Little seems to be known of congenital deficiency, but two cases recorded in the *Transactions of the Pathological Society of London* for 1895 have escaped the notice of our authors. They say Addison's disease may be due to congenital defect or to cirrhosis, syphilis, tubercle, or simple inflammation, tubercle being

[4] *Die Erkrankungen der Nebennieren.* Von Hofrat Professor Dr. Edmund von Neusser und Privatdozent Dr. Josef Wiesel, in Wien. Zweite voellig umgearbeitete und vermehrte Auflage. Wien und Leipzig: Alfred Hölder. 1910. (Sup. roy. 8vo, pp. 189. Abb. 13. M. 4.40.)

the most common. As to the greater relative share of the cortex or medulla, they decide for the latter, the participation of the cortex being only secondary, and that of the sympathetic ganglia "partial, inconstant, and unimportant." They draw special attention to the frequent association of status thymo-lymphaticus with Addison's disease. The difficulties of diagnosis are emphasized, as there may be not only disease of the capsules without melanoderma, but there are many forms of pigmentation which are independent of any disease of the capsules. According to Lewin's figures the capsules were found to be healthy in 12 per cent. of cases regarded clinically as Addison's disease, while in disease of the capsules 28 per cent. were without symptoms of Addison's disease. Pigmentation of the mucous surfaces is the most characteristic sign when it is present; on the other hand, anaemia is not a marked symptom. They say nothing material about treatment except to express the hope that in the future something may be done by means of opotherapy in the form of feeding, injections, or implantation. The last chapter deals with the problems of pathogenesis; they explain the partial or entire absence of symptoms when both capsules are completely destroyed by invoking the presence of accessory deposits of chromaffin cells; where Addison's disease is present, but the disease of the capsules is unilateral, the other organ is held to be functionally inhibited, and where both are intact they assume the existence of disease of a hypothetical tropho-neurotic centre or of the chromaffin cells outside the capsules. They attribute the greater frequency of symptoms in the presence of tuberculous disease to the "exquisitely destructive character of the tuberculous process"; also to the fact that tubercle finds diminished resistance in hypoplastic glands; and lastly, because neoplastic cells may possibly secrete adrenalin, just as the cells of cancer of the liver have been known to secrete bile.

The monograph is one which everybody interested in the subject should read. It is provided with a bibliography, and the text is illustrated by drawings.

MOVABLE KIDNEY.

MR. BILLINGTON has written an excellent book from the surgical point of view on *Movable Kidney*.[5] It is based upon an extensive personal experience, for during the last few years he has sutured in place upwards of 350 dislocated organs. He defines mobility of the kidney as existing (1) when it drops to a lower level on the assumption of the erect position; (2) when the lower pole can not only be felt, but held between the examiner's thumb and finger; and he classifies the displacements under four headings: (1) Simple prolapse of the kidney; (2) prolapse with internal rotation of the lower pole; (3) prolapse with rotation inwards and forwards of the lower pole; (4) rotation with little or no prolapse. In the last instance the kidney may not be palpable, but he gives cases to show that such badly-placed kidneys may give rise to very severe symptoms, and this fact is of importance because it illustrates the truth of his teaching that in fixing a kidney in place it is most desirable that it should be in its normal situation, for, as he says, a kidney badly fixed often causes more trouble than when it was freely movable. He regards the most important causes of movable kidney to be trauma, errors in dress, too early return to ordinary life after confinement, constipation and pathological changes in and around the kidney, and of these he seems to regard the first as the most definite. As to the way in which the kidney reacts upon the body, he describes the two theories as (1) mechanical and (2) toxic, and while fully accepting the former, thinks that the latter should not be hastily dismissed, although it is difficult to say why the mobility of the kidney should cause toxic neurasthenia and insanity while these phenomena are not set up by other renal diseases which interfere much more conspicuously with the functions of these organs; nor is it quite easy to understand how the mobility can act in the way supposed by irritation of the sympathetic system of nerves when, as the author says, "a movable kidney may be pulled out upon the loin, freed from all surrounding adhesions, and fixed in a new position without any noticeable effect on the pulse or respiration."

In the last part of the book the author gives a very clear account of his method of performing nephropexy. The work is illustrated by drawings and photographs, so that it is a very complete and useful monograph on the subject.

[5] *Movable Kidney, its Etiology, Pathology, Diagnosis, Symptoms, and Treatment.* By William Billington, M.S.Lond., F.R.C.S. London, New York, Toronto, and Melbourne: Cassell and Co., Limited. 1910. (Demy 8vo, pp. 176; illustrations 12. 7s. 6d.)

DIABETES.

NOTHING bears stronger testimony to the popularity of Professor von NOORDEN'S[6] monograph on diabetes than the persistent demand for new editions. We reviewed the fourth edition in March, 1908, but the author tells us in his preface that the impression was exhausted in the summer of 1909, and only the need for careful revision and the pressure of other literary work have delayed the appearance of this the fifth edition, in which the chapter on the physiology and general pathology of sugar economy, its pathological chemistry and metabolism, and consequently the theory of diabetes, have required much overhauling, the last section having been entirely rewritten. The author has reverted to the opinion that the main cause of diabetes is overproduction of sugar, and has abandoned the doctrine of diminished consumption by the tissues, which he held previously. He bases his present views mainly upon the results of experiments on animals by Porges and H. Salomon, made in his wards, which show that the depancreatized dog has a respiratory quotient not differing from that of the normal animal—in other words, the process of burning off sugar in the tissues is not less than normal in the diabetic dog; the hyperglycaemia is, therefore, due to overproduction in the liver; this overproduction may depend upon excessive stimulus or impaired inhibition. The stimulus to the liver may come from excess of carbohydrate food, as in ordinary alimentary glycosuria, or by increased call from the tissues or from the central nervous system through the medium of the chromaffin system, which supplies the sensibilizer of the sugar-forming function of the hepatic cells. On the other hand, there may be diminished inhibition by impairment or suppression of the function of the pancreas, which again is regulated to some extent by the thyroid; these glands in health restrain the diastatic action of the liver cells. These various agents may be all concerned in the production of diabetes. Nor does he leave out of account a possible primary anomaly of the liver cells. He admits that we do not know for certain that overstimulus of the chromaffin system ever produces diabetes, and he is disposed to think that there is some pancreatic defect always present which permits the access of the neurogenous stimulus to the sugar-forming apparatus. This view that overproduction of sugar is at the foundation of diabetes, is not that put forward in *Metabolism and Practical Medicine*, published three years ago, under the direction of Professor von Noorden, where we find (page 545) this statement: "The facts as a whole show that the body cells, particularly those of the muscles, can make an imperfect use of the sugar, although this is flowing through them in abundance"; and the suggestion is offered that the relation would be clear if we adopted the hypothesis that the carbohydrate of the cells cannot be properly katabolized because it is not fixed in them as glycogen. With regard to the generally popular theory of the overproduction of sugar, only the difficulties in the way of accepting it are stated. It is true that Professor von Noorden recognized in his last edition that there may be a secondary overproduction of sugar; but his present position goes far beyond this, and his conversion is the more remarkable, as it was established years ago by Weintraud, Leo, and others that the respiratory quotient in diabetes neither exceeds nor falls below the limits recognized in the normal individual. Such a change of opinion on the part of a high authority like Professor

[6] *Die Zuckerkrankheit und ihre Behandlung.* Von Professor Dr. Carl von Noorden. Fuenfte vermehrte und veraenderte Auflage. Berlin: August Hirschwald. 1910. (Roy. 8vo, pp. 434. M. 10.)

von Noorden is disconcerting to the ordinary man; but the difficulties of understanding the pathogenesis of diabetes have not disappeared because Professor von Noorden has altered his views. It is a subject upon which no one ought to dogmatize, but we may say that modern investigations have long pointed in the direction which Professor von Noorden has somewhat tardily followed.

EYE DISEASES IN INFANCY.

PROFESSOR PETERS'S new book on the diseases of the eye in infancy[7] will be a welcome addition to the library of those ophthalmic surgeons who are able to read the straightforward simple German in which it is written. Unlike so many works on ophthalmology, it is no mere *réchauffé* of Fuchs's classical work. It is original from cover to cover. The author has emancipated himself from stereotyped precedent, we find no anatomical or conventional classification of disease, but instead the modern pathological nosology. Pathology is the foundation upon which the edifice stands, and yet we are wearied with no dry details of structural histology. Nor are pages devoted to the cardinal facts of simple optics, facts which every medical man is supposed to have absorbed from his Ganot during his early training. We know of no textbook dealing with ocular disease which is so eminently readable. Many, though valuable as works of reference, would produce intellectual indigestion if partaken of in large quantities. Professor Peters's book on the contrary would agree with the most delicate mental digestion. The chapters on tuberculous processes in the eye are perhaps the best, and are worthy of the most careful study; they are absolutely up to date, and are logically convincing. The later chapters upon muscular imbalance, upon squint, and errors of refraction, are perhaps not treated with the same masterly grip of the subject, but one would seek enlightenment on these matters from Lucian Howe, from Worth, or from Maddox, rather than from a German source. In treating of orbital disease we find no reference whatever to chloroma. Lymphoid tumours associated with leukaemia are mentioned, but chloroma is omitted. We notice two misprints, both very important ones. On page 85 it is stated that yellow ointment is made from hydrarg. oxyd. *rubr.*; this should, of course, be oxyd. *flav.* The red oxide causes intense irritation. On page 161 it is stated that the dose of Old Tuberculin can be raised to "½ g.," and that Schlossmann uses doses from 1 to 5 g. This is surely a misprint for ½ mg. and 1 to 5 mg. A dose of 5 *grams* of tuberculin would be an enormous one; the largest we have ever given is 0.005 c.cm. We regret to see that even to-day in the twentieth century it is recommended that a child's canaliculi should be slit up with Weber's knife. We can think of no condition which would justify such a mutilation. In congenital atresia of the duct it may be necessary to pass a fine probe *once*, but this can be done without such a drastic measure as is suggested by Peters. The author seems to have great dread of atropine intoxication, and advises the use of scopolamine in ¼ per cent. strength as being less toxic, but we have never heard of a case of poisoning following the use of atropine *ointment*. Peters does not suggest that *ointment* should be used for infants instead of *solution* of atropine. But these criticisms refer but to isolated details. The work taken as a whole shows a comprehensive grasp of the subject, and is a valuable summary of eye diseases among children. There are no illustrations whatever.

TREATMENT OF SHORT SIGHT.

PROFESSOR HIRSCHBERG'S book on the treatment of short sight[8] is distinguished by its sound common sense. The title should have been "On short sight" rather than "The treatment of short sight," for the work, which is a reprint of an article which appeared in *v. Leyden's Deutschen Klinik am Eingang des zwanzigsten Jahrhunderts*, deals with the whole subject of myopia. Professor Hirschberg has managed to make this somewhat dry technical subject highly interesting, and the book might well be read by medical practitioners who interest themselves in eye work, and especially by school medical officers. Although in places the individuality of the well-known author is apparent in a certain degree of dogmatism, yet, on the whole, questions upon which opinions diverge are treated very fairly. Professor Hirschberg is one of those who prefer to use a German technical word such as "*Regenbogenhautentzundung*" instead of "*iritis*," which is a cosmopolitan word in every way more convenient; but even he occasionally lapses and adopts the scientific term, although he often apologetically translates it into German. "Retinitis" is a word to which he takes exception because it is derived from the Latin word *rete* compounded with the Greek termination ἴτις. In spite of this peculiarity the German is in most places easy to translate. Unfortunately comparatively few English medical men study German, and thus valuable works of this nature, which have no counterpart in English literature, are closed to them.

[7] *Die Erkrankungen des Auges im Kindesalter.* Von Dr. Albert Peters. Bonn: Friedrich Cohen. 1910 (Roy. 8vo, pp 273. M. 6)

[8] *Die Behandlung der Kurzsichtigkeit.* Von Professor Dr. J. Hirschberg. Berlin: Urbán und Schwarzenberg. 1910. (Sup. roy. 8vo, pp 89. M. 3.)

THE *X* RAYS IN DIAGNOSIS.

THE latest volume of the Lehmann medical atlas series is devoted to *x*-ray diagnosis in internal medicine,[9] and is edited by Dr. GROEDEL, who contributes four out of the eighteen special articles which precede the atlas proper. The main value of the work, indeed, lies in these chapters, written by Continental specialists, rather than in the radiographic maps, which in spite of all the skill exercised in their production are not entirely satisfactory. It is inevitable that this should be the case, for in the examination of several of the organs, especially the stomach, the only things of real value to the diagnostician, and in a secondary sense to the student, are the screen image and the original negative. But if in an atlas of this kind we only see through a glass darkly, there is plenty of dry light in the text, which treats in turn of the organs of respiration, circulation, and digestion, the uropoietic system, and morbid conditions of the bones. Professor Paul Krause is responsible for the section on the early diagnosis of pulmonary tuberculosis. On this matter the radiologist has spoken in a somewhat subdued tone during the past year or two, but Professor Krause is by no means conservative in his claims. He says that, although a fairly extensive infiltrative process in the lung apices may be equally demonstrable by physical and *x*-ray methods, yet when it is more centralized and slighter in extent percussion fails as a means of diagnosis before the *x* rays fail, and that of the two *x*-ray methods the plate will sometimes prove the presence of an infiltration when the screen examination has failed to detect it. In the examination of children for suspected tuberculosis he advocates the use of a tube having a hardness of 4 to 5 on the scale of Walters. We have devoted most of our space to the writings of Dr. Krause, but the other articles are equally worthy of study, and Dr. Groedel's treatises on the orthodiagraphic examination of the heart and on the examination of the stomach are of special value.

HEREDITARY TRANSMISSION OF DEFECTS IN MAN.

IN his dissertation[10] for the M.D. degree at Oxford, Dr. STAINER has chosen the subject of *The Hereditary Transmission of Defects in Man*, and has given a short but particularly lucid account of a subject which is for the moment of more than ordinary interest. The main theme of his paper is the search for law and order in the midst of the hitherto disconcertingly confused modes of transmission. To illustrate the several types of direct and indirect transmission, a large number of pedigrees are given of families afflicted with various defects. Dr. Stainer endeavours to show that an increase in the extent or

[9] *Lehmann's med. Atlanten.* Band VII. *Atlas and Grundriss der Röntgendiagnostik in der inneren Medizin.* Edited by Franz M. Groedel. Munich: J. F. Lehmann. 1909. (Post 4to, pp. 344; 297 illustrations on plates and 114 figures in text. M. 24)

[10] *The Hereditary Transmission of Defects in Man.* By Edward Stainer, M.A., M.B., B.Ch. Oxford University Press: Henry Frowde. 1910. (95 pp.)

severity of the defect may have no small influence in causing a change from the direct to the indirect type. He bases his supposition on the fact that in the case of such serious defects as haemophilia the transmission is through normal females to defective males, that is, the carrier-female type. In families, however, afflicted with the same disease in a milder form, it is found that defective females also occur. If the change does take place it should be possible to discover families exhibiting intermediate stages between the extreme types, and the author brings forward several pedigrees in support of this view. This change seems to be part of a general process which may be termed the natural elimination of defects. The relation of the subject to the principles of Mendel is next discussed, and it is shown by actual instances that the first law of Mendelian inheritance, namely, the dual representation of somatic characters in the germ-plasm, explains the behaviour of the female-carrier in the transmission of defects as well as the occurrence of normal individuals amongst the offspring of defective parents. A third section of the paper is devoted to the study of some cases of inheritance of ichthyosis and red hair which had come under the author's personal observation.

NOTES ON BOOKS.

WE have frequently drawn attention to *Herbert Fry's Royal Guide to the London Charities*,[11] of which the forty-seventh annual edition has now been published. It supplies at a very small cost a comprehensive list of all charities working in or from London, showing when they were founded, their official address, their object, the names of the principal officials, how application should be made, and the number of persons annually benefited. The arrangement is alphabetic, and there is also an index. This year, in addition to his usual editorial review, in which he writes down the year 1910 as a bad one for London Charities, Mr. Lane supplies some notes indicative of the reasons why certain charities may be regarded as specially deserving of support.

We note that the book entitled *Forbidden Fruit for Young Men*[12] has reached an eighth edition—a fact which in itself is good evidence that it justifies its existence. It deals with celibacy and purity chiefly in relation to young men, though all the sides of the subjects are dealt with in turn. The spirit permeating the book is religious as well as moral, but at the same time thoroughly manly. The author, Lieutenant-Colonel SETON CHURCHILL, has written a good many works on questions of morality, and though in the present book he no doubt has chiefly in his mind young men, he addresses himself also in effect to parents, teachers, and medical men. We draw attention to the book because it is, on the whole, a favourable specimen of a growing class of publication not all of which are satisfactory. Practically all their authors address themselves to too many classes of readers, and produce books of greater length than young men of healthy body and mind are prepared to read on such subjects. The ideal book for young men will content itself with pointing out in a few short and absolutely practical chapters why a man, adolescent or adult, owes it to himself and his fellows to lead a sexually pure existence.

[11] *Herbert Fry's Royal Guide to the London Charities.* Edited by John Lane. 1911. London: Chatto and Windus. (Cr. 8vo, pp. 293. 1s. 6d.)

[12] *Forbidden Fruit for Young Men.* By Lieutenant-Colonel Seton Churchill. Eighth edition. London: James Nisbet and Co. (Medium 16mo, pp. 269. Price 1s. 6d.)

MEDICINAL AND DIETETIC ARTICLES.

Digipuratum.

IN spite of much chemical investigation and physiological testing, full knowledge of the respective actions and relative importance of the various glucosides contained in digitalis has not yet been attained. It is generally agreed that no single one of these principles possesses the full action of the drug, and galenical preparations are accordingly generally preferred to any single "digitalin" or other constituent. In "digipuratum" Messrs. Knoll and Co. (8, Harp Lane, London, E.C.) present a purified dry extract of the drug, which is stated to contain all the glucosides in an unaltered state but without the saponin body, digitonin. It is asserted that the latter is the cause of the gastric and intestinal symptoms that occur when digitalis leaf is given, and, if so, its removal is, of course, an advantage. Digipuratum is supplied in the form of a powder, 1 grain of which represents 1 grain of leaf, and also as tablets containing 1½ grain in each.

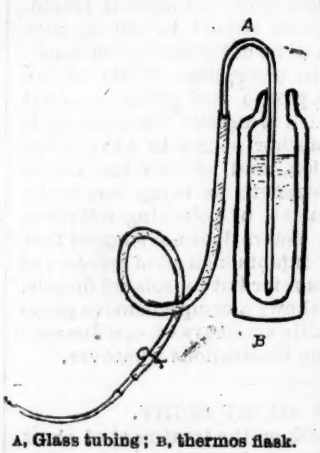
MEDICAL AND SURGICAL APPLIANCES.

A New Form of Suppository.

DR. HAYDN BROWN (Caterham) writes: In endeavouring to treat haemorrhoids, fissures, pruritus, or other conditions of the anus by local applications, however well and shrewdly the solution or unguent may be chosen by the surgeon or physician—whatever its formula—getting the material upon the parts properly has always been the difficulty hitherto never satisfactorily surmounted. It has been the custom of many medical advisers to use an ointment applied by one of the familiar ointment introducers. If a haemorrhoid be entirely external there can be no difficulty in application. But if it be internal any of the ointment introducers so deposit the ointment that very little comes in contact with or remains on the affected parts. In considering ordinary rectal suppositories the inefficiency must be still more obvious, for these appliances simply pass beyond the disorder and there melt, the anal canal closing and remaining tightly contracted while the affected surface is practically uninfluenced. The ordinary form of suppository passed through the anal canal into the rectum is only of real use in conveying analgesics, narcotics, or nutrients. The illustration shows a stem having one end bulbous and the other end bulbous with flattened base. The bulb end passes easily through the anal canal, while the stem follows until stopped by the other bulb meeting the sphincter. The bulbs keep the stem in the anal canal. In order to strengthen the stem for manipulation an impregnated wick is inserted in the long axis. This wick serves a double purpose, for, as the thin stem melts first, the wick serves to retain the bulbous ends in position, which further keep the melted medicament *in situ* between them. This form of suppository is easier to insert than the old form, for the end first inserted is controlled from the other end held in the fingers, and after a start the suppository fits itself into position on account of its purposeful curvatures. When melting has taken place, the thin shrunken wick is neither felt nor found to be of any inconvenience whatsoever. There exists this further important factor: that, instead of using rapidly-dissolving bases, as in the case of ordinary suppositories, the new form lends itself to more slowly dissolving constituents, let the medicament be of a gently astringent, antiseptic, anodynal, or any other nature. The suppositories have been made for me by The British Drug Houses, Limited, 22, Graham Street, City Road, London.

Apparatus for Proctoclysis.

DR. HENRY W. P. YOUNG (Norbury, S.W.) writes: In the management of continuous proctoclysis the maintenance of the temperature of the saline solution at a uniform height is always a matter of some difficulty, and, unless some special appliance is used, requires the almost constant attention of the nurse. A "thermos" flask, however, affords a simple means of overcoming this difficulty. If the flask be filled with saline at a temperature a few degrees above that at which it is desired to administer the injection, to allow for cooling in the conducting tube, it will be found that this temperature will remain at practically the same level during the time the bottle takes to empty itself. At the rate of flow usually advised—namely, one drop per second—7½ ounces are used per hour, so that a pint thermos will hold sufficient solution to last for at least two hours. The only additional apparatus required are a U-shaped piece of glass tubing having one arm long enough to reach to the bottom of the flask, a piece of rubber tubing attached by one end to the glass tube and by the other end to the rubber catheter, a small piece of glass tubing intervening; and, lastly, some means of limiting the flow, such as a metal clip on the rubber tube or the introduction of a tap such as is supplied with a Rotunda douche.



A, Glass tubing; B, thermos flask.

THE COMPOSITION OF CERTAIN SECRET REMEDIES.*

NERVE TONICS.

(Continued from page 28.)

THE following completes the notes upon the results of analysis at present made of proprietary medicines falling under the general description of "nerve tonics." Some are more particularly put forward for curing the effects of sexual excesses. In the case of certain of these, as of some of the proprietary remedies for other purposes dealt with in previous articles, a profession is made of prescribing for individual cases in accordance with the answers supplied by the purchasers to printed sets of questions.

INVIGOROIDS.

The tablets sold under the name Invigoroids are supplied by the Domestic Manufacturing Company, Sheffield, at 2s. 9d. per box containing 54 tablets.

They are thus described in a circular:

Invigoroids are a pure and powerful nerve and organic tonic and food, designed to replace (at a reasonable price) the highly-priced and pernicious remedies that are so common. With results much more beneficial and yet with no evil after-effects, Invigoroids are worth their weight in gold to suffering, sorrowful men, and are regularly prescribed by leading specialists. Invigoroids create blood, nerve force and energy. Fill weak and worn-out men with healthy life and rampant vigour. Make existence a perfect pleasure, and render the system disease-proof and capable of sustaining prolonged exertion in any form.

The only Cure for Impotence in Men. . . .

We Speak to You If your complaint is amongst the following: Back Pains, Brain Fag, Dejection, General Weakness, Head Pains, Hysteria, Impotence, Loss of Flesh, Lost Vitality, Nerve Paralysis, Nervous Debility, Senile Decay, Unnatural Forebodings, Weakness of Generative Organs, etc.

In a newspaper advertisement it is stated that:

Invigoroids contain free phosphorus (nerve and brain food) and rare herbal blood and flesh-forming specifics.

The directions on the label were: "Take one three times daily." The label was printed, "Take two, twice or three times daily," but this was altered in ink, not very clearly, to the preceding.

The tablets were sugar-coated and coloured red externally; after removal of the coating they had an average weight of 2.8 grains. Analysis showed the presence of asafoetida, ferrous carbonate, zinc phosphide, strychnine, brucine, and sugar of milk. The alkaloids were probably added in the form of extract of nux vomica, and the amount of this is calculated from the proportion of alkaloids found; the asafoetida was estimated from the proportion of resin found. The results of tests for the zinc phosphide were somewhat obscured by the other substances present; the amount was calculated from the proportion of zinc found. The ferrous carbonate is calculated as the official saccharated carbonate. The formula so arrived at is:

		In One Tablet.
Extract of nux vomica	1.0 per cent.	0.028 grain.
Zinc phosphide	2.4 ,,	0.067 ,,
Saccharated carbonate of iron	18.0 ,,	0.50 ,,
Asafoetida	9.0 ,,	0.25 ,,
Sugar of milk.		

The package was not labelled "Poison," although it would appear to come within the schedule of the Poisons and Pharmacy Act.

The estimated cost of the ingredients for fifty-four tablets is ½d.

DR. MORGAN'S RADIO-VIMETTES.

This preparation is supplied by the Powell Manufacturing Co., Ltd., London, at 2s. 9d. per box, containing 20 pills. They are advertised in the following terms:

Proved by thousands to be unsurpassed in restoring lost vitality and strength in all cases of Debility, Nervous Exhaustion, Lost Vitality, Varicocele, and all Diseases of the Blood, Nerves, and Brain. Not a quack remedy, but compounded from the Private prescription of a celebrated Doctor.

A supply was obtained by post, and a few days later a letter was received from the Powell Manufacturing Co., as follows:

Dear Sir,

We sent you a week ago a course of Dr. Morgan's "Radio-Vimettes," and as in every case in which these are sent, we take, not merely an interest to sell the Vimettes, but a genuine interest in your ailment and its cure, we are writing now to know just what benefit has accrued from the course of treatment you have had.

If your case is a mild one we have no doubt that by this time your nerves are strengthened, your energy restored and your general vitality and health renewed, and it only remains for us to say how glad we are that the Vimettes have once more vindicated their claim to supremacy.

If, on the other hand, you had not regarded the first signs of disease and wrote us only when nature positively demanded relief from suffering we know that you cannot possibly be ENTIRELY CURED, and if such is your ailment, our interest in its eradication still continues firm. For all such ailments our primary desire is to relieve, and should you still be suffering we beg you to let us know AT ONCE, not merely saying "I am not cured," but by writing a quiet, friendly letter saying just how you feel, giving full particulars of your case,—the cause—and the result. Direct this to "The Specialist" marked "Private," and it will then be read only by him, regarded by him as most strictly confidential and, if desired, returned to you. Enclose a stamp for return postage and you will then obtain full advice on your case FREE OF ALL CHARGE, and we sincerely trust that by so writing health, strength, and vitality may be yours again.

A leaflet was enclosed on "Special Courses of Radio-Vimette Treatment," from which it appears that there are three such courses, referred to as: "No. 1. Neurasthenic; No. 2. Urinary; No. 3. Impotence."

The Courses of Treatment in each case enumerated above are put up in two forms, the supply being sufficient approximately for one month's treatment.

No. 1. SPECIAL STRENGTH for mild cases, 11s. per Course, Carriage Paid.

No. 2. CONCENTRATED for severe cases and cases of long standing, 21s. per Course, Carriage Paid.

The best advice of the Specialist is at the services of every Patient free of all charge, and in every case correspondence is treated in the strictest confidence.

A list of questions to be answered was also sent.

The dose is given, in a circular of "General Directions," as follows:

The Ordinary Strength Radio-Vimettes will be found sufficiently powerful for all mild cases of Nerve trouble, such as NERVOUS DYSPEPSIA, HEADACHES, etc.

For these troubles One Radio-Vimette should be taken night and morning after meals.

The pills were ovoid in shape, sugar-coated, and coloured purple externally. After removal of the coating they had an average weight of 3.7 grains. Analysis showed the presence of free phosphorus, reduced iron, quinine sulphate, and excipient. The amounts found were:

		In One Pill.
Reduced iron	70 per cent.	2.6 grains.
Quinine sulphate	11.8 ,,	0.44 grain.
Phosphorus	0.13 ,,	0.005 ,,

The estimated cost of the ingredients for twenty pills ½d.

GORDON'S VITAL SEXUALINE RESTORATIVE.

This preparation and a number of others are supplied by C. Gordon, Bradford. The price of this "restorative" is 22s. per bottle, holding 21 fluid ounces.

The usual advertisement is of a pamphlet called "Strength, How Lost, How Regained," which is thus referred to:

Interesting and instructive remarks to young and middle-aged men on "How to Preserve Strength and Retain the Powers." A Brief Treatise on Nervous Exhaustion, Loss of Strength, and Debility in Men. This book not only contains valuable remarks on how to preserve Strength and retain the Powers to an advanced age, but points out the best means of restoring Exhausted Vitality, Poverty of Nerve Force, Mental Depression, and will especially interest those who wish to create Vitality, increase Nerve Stamina, renew the Vital Forces, or fit themselves for business, study, or marriage.

The pamphlet is further entitled:

"A Confidential Treatise on Nervous Exhaustion, Spermatorrhœa, Varicocele, Generative Weakness, Debility, Special Diseases and Urinary Derangements in Men, THEIR CAUSE AND CURE, By Concentrated Herbal Remedies. A Popular, Practical, and Moral Exposition of Some of the Fundamental Problems of Sociology. By Charles Gordon, P.M.B."

* Previous articles of this series were published in the following issues of the BRITISH MEDICAL JOURNAL: 1904, vol. ii, p. 1585; 1906, vol. ii, pp. 27, 1645; 1907, vol. i, p. 213; vol. ii, pp. 24, 160, 209, 393, 530, 1653; 1908, vol. i, pp. 833, 942, 1373; vol. ii, pp. 86, 505, 1022, 1110, 1193, 1285, 1566, 1697, 1875; 1909, vol. i, pp. 31, 909, 1128; vol. ii, p. 1419; 1910, vol. i, pp. 151, 213, 393, 1005, 1063, 1120; vol. ii, pp. 982, 1350, 1928; 1911 vol. i, p. 26.

It is a booklet of 43 pages, with sections on Onanism, Spermatorrhoea, Marriage, Varicocele, Impotence, Gonorrhoea, Gleet, Syphilis, etc. An "advice form" was also sent, containing a list of questions to be answered by those desiring medicine.

A price list gives the prices of the following: Vital Sexualine Restorative (described as "for Onanism, Night Emissions, Seminal Losses, Waste of Vitality, Brain Fag, Depression, General Weakness, Loss of Energy, Nervous Debility, Spermatorrhoea, and Varicocele"), Viro-Erectile Elixir, Anti-Syphilitic Mixture, Bubo Compound, Gleet Compound, Gonorrhoeal Mixture, and Gravolene, all at 22s. per bottle, and Gentiana Tonic and Varixolene Liniment, at 11s. per bottle.

On the label of the "Vital Sexualine" it is called:

The Great Nerve Restorative, Brain Fertilizer, and Vital Tonic. Feeds, Strengthens, and Sustains the Nerves, prevents Losses and waste of Vitality, Creates Nervous Fluid, Brain Matter and Nerve Force. Brightens the intellect, improves the memory and mental faculties, restores strength, and promotes a renewal of life in the entire system. A proven remedy for all weakened conditions of the system dependent upon the deficiency of the vital forces.

Permanently Cures — Neurasthenia, Nervous Breakdown, Brain Fag, Depression, Loss of Energy, Sleeplessness, Nervous Headache, Melancholia, Trembling, Poverty of Nerve Force, Nervous Prostration, General Weakness, Loss of Strength, Exhausted Vitality, Premature Decay, Brain Wreckage, Neuralgia, Nerve Tire, etc.

Dose.—One small teaspoonful in a wineglassful of cold water three times a day, immediately after meals.

The liquid was reddish-brown in colour, and syrupy. Analysis showed it to contain:

		In One Dose.
Iron hypophosphite ...	0.50 part ...	2.7 grains
Calcium hypophosphite...	0 50 ,, ...	2.7 ,,
Sodium hypophosphite ...	0 60 ,, ...	3 2 ,,
Potassium hypophosphite	0.14 ,, ...	0 7 ,,
Quinine sulphate ...	0 50 ,, ...	2.7 ,,
Citric acid	0.90 ,, ...	4 8 ,,
Sugar ... (approx.)	51 parts	
Glycerine ,,	36 parts by measure	
Colouring matter ...	q.s.	
Water	to 100 ,, ,,	,,

Metallic hypophosphites are not generally considered to be "concentrated herbal remedies."

The estimated cost of the ingredients for 21 fluid ounces is 10½d.

THE MARSTON TREATMENT.

This is supplied by the Marston Remedy Company, London.

It is advertised as follows:

EVERY MAN

Suffering from GENERAL and PHYSICAL DEBILITY should send for a Valuable Pamphlet explaining how all Nervous and Organic Derangement may be successfully treated without stomach medication. The method is easy and pleasant, and will effect a perfect and permanent cure. Sent in a plain sealed envelope post free 2 stamps.

Application to the address given brought a paper-covered book of seventy-two pages, entitled *A Treatise on the Modern Treatment of Nervous Diseases and Exhaustion in Men by Local Absorption*, the scope of which is indicated by the following extracts:

The object of this treatise is to describe, in as clear and simple a manner as possible, for the non-professional reader, the various diseases and affections resulting in the nervous and sexual systems from the indulgence of early pernicious habits, excessive venery, fast living, and other irregularities, the product of our modern civilization. . . .

In issuing this edition of our treatise on NERVOUS DISEASES, we desire especially to point out that ours is not an empirical or secret treatment, nor do we use merely one single preparation and designate it a cure-all and panacea for every variety of disease. On the contrary, the Remedies used are varied, and such as long experience in the treatment of Nervous and Sexual ailments have proved to be the most valuable in their cure. Our object is to prescribe the course necessary to be taken to ensure the result expected or hoped for; we claim no new or occult discoveries in the domain of Medicine or Pharmacy, but we do claim that our method of combining medicinal drugs, in the form of a suppository and applying them directly to the immediate locality of the diseases described in this treatise, is not only more successful in its results but is more effectual and rational than purely stomach drugging for nervous Diseases allied with sexual troubles.

The book was accompanied by various other papers, and a letter from which the following extracts are taken:

If for any reason after a perusal of our book you are unable to select the course of treatment necessary, you may give us a full and as clear a statement as possible of your symptoms, and we will submit it to the consulting physician, when such course as will meet the requirements of your case will be prescribed. The treatment can be sent to you by post, together with the necessary medical and hygienic advice suitable for your case.

Should you still have any doubt as to the advantages of rectal treatment in your case, possibly owing to some complication that does not enter within the scope of our treatise, we shall be glad to hear from you, and any letters will be treated in the fullest confidence. Consultation personally or by letter free of charge.

In a subsequent letter the following occurs:

We are well aware that there are firms in existence which treat nervous debility on similar lines to our own, but we again emphatically claim and challenge all riva's to contradict the fact, viz: that we are the oldest established advertising medical business, and that we were the first to originate the Rectal Method for the cure of Nervous and Sexual Diseases.

From the papers sent it appears that five kinds of treatment are supplied, as follows:

Graded Course for the cure of Seminal Losses, Spermatorrhoea, etc.

Impotence Course for the cure of Impotence, Loss of Sexual Vigour, Erectile Power, etc.

Urinary and Prostatic Course for all troubles of the Prostate, Gland, Bladder, Kidneys, etc.

Developing Course for Atrophy or Wasting and Shrinkage of the Organs, etc.

Neurasthenic or Nervine Tonic Course for General Weakness, Debility, Loss of Memory, Sleeplessness, Melancholy, Despondency, Depression, Neuralgia, Brain Exhaustion, and all those conditions arising from Debility associated with Nervous Diseases.

The price of the treatment is the same in all cases, namely, £1 1s. for one month's treatment, and £2 2s. for three months' treatment, of any course.

In a third letter it was stated that—

To convince you of our confidence in our Treatment to effect your cure, we will send you a three months' course of treatment upon receipt of One-Half the Regular Price, namely, 21s., and you need not pay the balance of 21s. unless you are perfectly satisfied with the results.

A guinea was accordingly sent for a three months supply of the Nervine Tonic Course; this elicited a request for answers to the printed questions that were sent, and a sample of urine, for "our Consulting Physician." The question paper was therefore filled in with particulars of an imaginary case of nocturnal emissions, and sent with a sample of normal healthy urine to which some glycerine and water had been added. Three boxes of suppositories were received, with a letter of which the principal parts were as follows:

We have your favor with answers to questions and sample of urine enclosed, and our Consulting Physician has submitted the latter to a careful examination, and we are pleased to inform you that it was found to be of normal specific gravity, and showed no evidence of any organic kidney disease, but an examination of the urinary débris, together with the statements made in the diagnosis form, discloses sufficient evidence to convince us that your nerves and sexual system is very much below par, and in order to bring about your complete restoration to sexual health and strength it will be necessary for you to undergo the treatment our Consulting Physician has prescribed in your case. . . .

You will therefore see that it is absolutely necessary in your case for you to undergo, in addition to the Tonic Course which you ordered in your previous letter, a three months' treatment of the Graded Course to permanently check all losses either at stool, in your urine, or by nightly emissions, and by this means a reinvigoration of the exhausted seminal secreting organs will be gradually effected. This course could be used every night whilst you are using the Tonic Course every morning. . . . we forward you herewith a three months' treatment of the Tonic Course. . . . Use from box No. 1 the first month, box No. 2 the second month, and box No. 3 the third month. . . . If you would like to follow our advice and use the Graded Course at night and will remit the reduced fee of 21s. for the same, the further remedy will be at once prepared and sent you. . . .

Each box contained 29 suppositories, or 87 in all, having an average weight of 16½ grains. All three kinds were found to be similar in composition; they differed a little in the proportions of the ingredients, but, as the drugs are not soluble in the fat, suppositories of such a composition, if prepared by melting and pouring into moulds, would show such differences in strength as those found, unless prepared in very small quantities and with extreme care. The composition shown by analysis was:

	No. 1.		No. 2.		No. 3	
	Per Cent.	Grains in One.	Per Cent.	Grains in One.	Per Cent.	Grains in One.
Calcium hypophosphite ...	0.4	0.07	0.3	0.05	0.3	0.05
Powdered gentian and powdered cinchona bark	2.1	0.35	3.7	0.61	2.7	0.45
Oil of theobroma	97.5		96.0		97.0	

The two vegetable drugs could not, of course, be determined separately; they appeared to be present in something like equal quantities.

The estimated cost of the ingredients for the eighty-seven suppositories (ordinary charge 42s.) is 5d.

MURRAY'S COMBINED TREATMENT.

This "treatment," which has so great a resemblance in many respects to the preceding as to suggest that it can hardly be merely accidental, is supplied by James Murray, London.

It is advertised as follows:

BOON TO MAN.

All Men suffering from Nervous Exhaustion, Physical Debility, and all Allied Troubles, should send for my Illustrated Book, fully describing Symptoms, together with most modern scientific method of cure, including hundreds of testimonials of complete cures. No Trusses. No Electricity. Sent sealed Post free two stamps.

On application to the address given, two paper books and a small pamphlet were sent. The first, entitled *The Combined Stomach and Rectal Treatment for the Permanent Cure of Nervous Debility and Sexual Diseases, including Spermatorrhoea, Impotence, and other Disorders resulting from these Conditions*, is a booklet of eighty-four pages, from which some extracts are given below; the second is a booklet of forty pages, entitled, *Varicocele: Its Symptoms and Cure;* and the pamphlet, of eight pages, is entitled, *A Treatise on Venereal Diseases, Gonorrhoea, Gleet, Stricture, etc.*

The "Treatment" is thus explained:

The present therapeutic methods of treating Nervous Debility may be described as three distinct systems, viz.:—Treatment by the Stomach alone, Treatment by Local Absorption, through the means of the Rectum or opening of the lower bowel, and the Murray system of combined Rectal and Stomach Treatment.

The two former methods used separately have proved of considerable advantage in removing some of the distressing symptoms of this disease, but the successful cure of Nervous Debility, needless to say, depends upon the cure and removal of every symptom associated with the disease. . . . This result is effected by "Murray's Treatment," which has received the appellation "Combined" from its peculiar means of administration. It comprises two forms of treatment. The first consisting of prescribed remedies taken by means of the stomach. . . . . The second form . . . is that of a Rectal Suppository.

The books were accompanied by various papers and a letter of the usual type, which was followed at intervals by others, in one of which it was stated that:

It is always the earnest endeavour of my Consulting Physician to carry out to a successful issue the many cases that come under our care, and I am glad to say that the results have in no way contradicted my claims as to this satisfactory issue.

In all cases that are submitted to my opinion, it is honestly given after consulting with my Physician, and in no case do we encourage or give hopes of a successful cure in those chronic cases which sometimes do not yield to treatment.

From the book it appears that five "courses" are supplied—namely:

The Nervine Tonic and Brain Food Course.
The Seminal Course.
The Impotence Course.
The Genito-Urinary Course.
The Atrophy Course.

From a long and varied experience in the treatment of Nervous Debility my physician and myself find it very requisite that three months' treatment should be prescribed in order to bring about a thorough and complete cure.

The fee for a three months' Treatment is £2 2s.

The fee for a month's treatment is £1 1s.

No order having been sent, a further letter was received, containing the following offer:

. . . I shall be most happy to make such reduction in the cost of the treatment as I hope will adapt itself to your means; and to show you the confidence I have in the value and benefits of my method of cure, I am willing to meet you in the matter of payment, and would suggest your paying me, say 20s. for a three months' course, and the balance of 22s. I shall only expect or look for, provided that you are perfectly satisfied with the results obtained from its use.

Twenty shillings was then sent for the "Nervine Course," and brought a request for answers to the questions on a sheet forwarded, and a sample of urine. The questions were answered in the same way as for the Marston Treatment (above), and a sample of the same mixture of urine, glycerine, and water was sent. Not only was the result the same, that is, a discovery that an additional course—at an additional fee—was necessary, but it was conveyed in very similar words:

It is evident that your case is more complicated than your first letter indicated, and from the full particulars to hand, together with result of examination of urine, your case needs in addition to the Nervine Tonic Course a Special Seminal Course to permanently check all seminal losses, whether at stool, in the urine, nightly or otherwise, and it will strengthen the now weakened seminal secreting ducts. This extra Course would have to be used in the morning and in conjunction with the night Course they will act in harmony with each other and attack every symptom of your case. . . . I shall be pleased to let you have this extra Course on the same reduced terms, viz., 20s., and upon receipt of this amount it will immediately be prepared and sent you with full directions, and I trust you will see your way clear to order the same at once so that they may be used conjointly.

The preparations sent consisted of three boxes of gelatine perles (called "gelatinoids") marked "No. 1," "No. 2," and "No. 3," each box containing 10, and three boxes of suppositories, similarly marked, each containing 30. It was explained that:

I am only sending you the first month's gelatinoids as it may be necessary to modify these next month.

The general directions were to use a suppository

from box No. 1 first day, box No. 2 second day, box No. 3 third day, recommencing with box No. 1 again on fourth day and so on in this order day after day. The Stomach Gelatinoids are to be swallowed and in same alternate order as Rectal Treatment.

The directions on the gelatinoids were "Take one every morning after breakfast."

Gelatinoids No. 1.

Each contained 0.75 grain of quinine sulphate, partly dehydrated, equivalent to 0.84 grain of the *B.P.* salt. No other substance was present.

Gelatinoids No. 2.

The contents of one had an average weight of 1.35 grains, and contained:

Ferrous phosphate ($Fe_3 2PO_4, 8H_2O$)	...	26 per cent.
Quinine phosphate ($Q_2H_3PO_4, 8H_2O$)	...	35 ,,
Strychnine Talc		11 ,,
Milk-sugar.		

The strychnine was only a small proportion of the alkaloid, and the amount of material available did not suffice for its separate determination.

Gelatinoids No. 3.

The contents of one had an average weight of 1.66 grains, and consisted of a brown extract agreeing in most characters and tests with extract of damiana. No other ingredient could be detected, but some other extract *might* have been present, as a mixture of some vegetable extracts could not be separated with such a small quantity as was available.

The estimated cost of the ingredients of the 30 gelatinoids is 1½d.

The Suppositories.

All the three kinds of suppositories had the same constituents, only showing such small variations in the amounts as would be inevitable in making a large quantity in the usual way; the average weight was 16 grains. Analysis showed the presence of:

	No. 1.		No. 2.		No. 3.	
	Per Cent.	Grains in One.	Per Cent.	Grains in One	Per Cent.	Grains in One.
Calcium hypophosphite ...	4.05	0.7	3.54	0.6	3.70	0.6
Powdered gentian and powdered cinchona bark	3.90	0.6	4.30	0.7	5.30	0.9
Oil of theobroma	92.05		92.16		91.00	

In the mixture of powdered gentian and cinchona, the former appeared to constitute more than half.

The estimated cost of the ingredients for 90 suppositories is 5½d.

THE INFLUENCE OF PARENTAL ALCOHOLISM ON THE PHYSIQUE AND ABILITY OF OFFSPRING.

A DISCUSSION on this subject took place at a meeting of the Society for the Study of Inebriety on January 10th. Letters of regret had been received from several gentlemen unable to be present, including Professor Karl Pearson, who wrote that pressure of other work prevented him from being present. But, failing this pressure, he did not think he would have attended the meeting of the Society for the Study of Inebriety, for, to judge by its journal and the tone of recent papers in it, its members did not seem to be occupied with scientific study.

The discussion was opened by Dr. T. B. HYSLOP, President of the Society, and late Resident Physician at Bethlem Royal Hospital, who spoke as follows:

In opening this discussion I am well aware of the difficulties in the task. The subject is, as you well know, one of very great importance, and it has been treated from so many and diverse points of view that to attempt to unravel the present tangle of criticism and doubt requires both courage and caution. In the first place it is necessary that the position of this society should be made clear. We profess *to study*. We have no axe to grind, no doctrine to disseminate, and no sermon to preach. We merely seek the truth, the whole truth, and nothing but the truth. It is by attacking problems from all sides that truth is ultimately reached, and even though discussions on alcohol are sometimes characterized by extravagances, the various personal conflicts do no harm so long as they do not obscure the matter discussed.

Unfortunately, or otherwise, the judicial mind is apt to be influenced when a pet hobby or intuition is in danger of being overthrown, and those who are so influenced most naturally warm to their work, and by every means available seek to protect what they consider to be the legitimate offspring of their reasoning faculties. Trouble is, however, apt to arise from the fact that these offspring are not always legitimate, and it is within the experience of all of us that we have cherished with tender care and solicitude ideas which time and advance in knowledge have ultimately proved to have been in reality delusions.

To-day we are faced with a problem of which our individual solutions have long been hugged to our breasts, to which we have given our faith, and which we have upheld without question. Like the post-impressionist in art, it now behoves us to divest ourselves for the time being of all our previous notions and beliefs, and to hark back, as far as possible, to the very beginning, and endeavour to rebuild on foundations which are really sound.

In answer to one of his critics, Herbert Spencer pointed out that it is easy for a child to make a hopeless tangle of a skein of silk, and doubtless it would be easy to accentuate the present condition of affairs with regard to the subject under discussion to-day. It will be better, however, if, instead of rending each other, we endeavour to acquire knowledge of such facts as may prove to be an adequate foundation for the reconstruction of an edifice by future investigators, and which shall stand the test of time.

We are in sympathy with the aims of the Eugenics Laboratory, although we do not approve of their statistical methods, and in our seach for truths we ourselves sometimes also exceed the mark, and possibly we also provide material for the dissemination of doctrines which, after all, are based upon a mass of heterogeneous, and even incompatible, data, and which leave much scope for criticism and attack. Such being the case, I trust that by friendly collaboration we may be able to avail ourselves of the vast amount of earnest and painstaking work already accomplished by some of the best brains of the day.

The Problem Stated.

I feel sure it is agreed that the problem we are met to discuss is not to be proved, or even advanced, by rhetoric, and, in my opinion, it is open to question whether it can be solved satisfactorily by statistics. *Does parental alcoholism—apart from parental degeneracy, which, together with a tendency to alcoholism, is heritable—influence the physique and ability of offspring?*

In order to answer this question, we must, so far as is possible, first eliminate such sources of error as are due to the inclusion of side-issues, indefiniteness of standards of alcoholism, health, and degeneracy, and we must correct our vague conceptions as to what really constitutes heredity. We ought also to equalize or exclude altogether such variations in environment as may possibly affect the germ-plasm of the parents or the offspring independent of the influence of alcohol itself. It is obvious, however, that it is wellnigh impossible to find a definite uniformity of phenomena on which to base statistics which shall be accurate in every particular. We cannot exclude all variations in environment, nor can we neglect the possibility of the intensification of degeneracy in successive generations due to a continuance of the same or different environmental defects.

In order to better define our standards of parental degeneracy and alcoholism, it is important to note the sex, age at incidence, and evidences of inheritance, as well as the nature and degree of the defect. Needless to say, the environmental conditions should also be carefully noted. So far as the parental degeneracy and alcoholism are concerned, the Galton Laboratory researches have served the very useful purpose of bringing again into prominence the *association*—in contradistinction to *causation*—of alcoholism and degeneration; but it must be confessed that the question as to which came first—the mental defect or the alcoholism—has not received such attention as is needed. As an asylum physician I am almost daily confronted with the difficulty of deciding as to which is cause and which is effect, and if, after full consideration of all the data available, it is wellnigh impossible to decide such an apparently elementary point, how much more difficult must it be to find sufficiently reliable data on which to base statistics! It is also to be noted that the tendency to degeneracy or alcoholism may be latent in the parent, and one or other of these defects may become manifest, owing to some accidental factor, either before or after the tendency has been transmitted to the offspring. This fact renders the question as to which came first—the alcoholism or the child—somewhat futile.[1] At first I believed that parental alcoholism should invariably precede the birth of the child, but I have now come to see that such a stipulation would lead, not only to the suppression of half the truth, but even provide a source for error unless definite distinction were made between parental alcoholism *per se* and parental degeneration *plus* a psycho-neurotic tendency to alcoholism.

Alcoholism at Conception.

The occurrence of conception at some festival season, when acute alcoholism is rife, has provided some investigators with data for consideration. The assertion that alcohol at festivals is the source of imbecility in offspring is as yet, however, unproven. Undoubtedly there may be an increase in the number of conceptions on such occasions, but I am not aware of any statistics which take into account the relationship of the alcohol to degeneracy in the parent, and the possibility of any ill results to the offspring being due to direct heredity has not, so far as I am aware, been adequately considered. In this connexion it must be noted that we know but little of the influences, alcoholic or otherwise, which determine conception; and, moreover, the parents are apt to shelve their responsibilities in such matters, and attribute defects in their offspring to some accidental or even fanciful cause. Certain it is that many of the poorer classes attribute the largeness of their families to the abuse of alcohol and the consequent loss of control and other considerations.

The earlier researches of Laitinen,[2] to which reference is made by the same observer in his Norman Kerr Lecture[3] and further contribution to the proceedings of the last International Congress on Alcoholism, have been very freely and exhaustively criticized by others. That he made no distinction between parents, one of whom drank, or both of whom drank, provides Professor Karl Pearson

[1] Any statistics which do not clearly differentiate between the two types of parental alcoholism and degeneracy are futile.
[2] Lecture delivered at the Anti-Alcohol Congress in Stockholm, 1907.
[3] See *British Journal of Inebriety*, October, 1909; and "Contribution to the Study of the Influence of Alcohol on the Degeneration of Human Offspring" (Proceedings of Twelfth International Congress on Alcoholism, 1909.)

and Miss Elderton with matter for self-congratulation, in that they themselves distinguished between the father and mother, and arrived at the conclusion that the drinking of the mother had more influence than the drinking of the father, and that, slight as was the effect, since it influenced girls more than it influenced boys, it was unlikely to have been due to toxic action on the fetus. That the latter observers carried their observations a few steps farther than did Professor Laitinen cannot be denied, but, needless to say, this fact does not in itself render their conclusions any the more valid. Laitinen's previous researches on the effects of small quantities of alcohol on animals, and the degeneration which he claimed to have found in their offspring would, if correct, appear to have more direct bearing on the subject, inasmuch as it is not probable that the offspring inherited a parental neurosis or psychosis to which the effects of alcohol had been added and transmitted as such to the offspring. For our purposes we must merely take note of Laitinen's statement that the number of young of those animals that received alcohol was somewhat larger, but much weaker, than in the case of the young of animals not treated with alcohol.[4] The truth of this statement will doubtless be fully investigated, and upon its verification much must necessarily depend.

Parental Alcoholism and Degeneracy.

For a long time past I have in many instances attributed mental and physical defects to parental alcoholism, but I must now confess that, after careful consideration of the data so much discussed by the members of the Eugenics Laboratory—also Sir Victor Horsley, Drs. Saleeby, Basil Price, Demme, Bezzola, Laitinen, MacNicholl, and many others—I have endeavoured to discard my previous conceptions, and I have sought diligently for an instance of defect which I could honestly convince myself as being due solely and entirely to parental alcoholism. Formerly I regarded epilepsy, some forms of insanity, mental enfeeblement and defective inhibition, deaf-mutism and stunted growth, as being mainly due to parental alcoholism. All these conditions, however, fall under the category of defects in what has been aptly termed the "general controlling determinant," and I have as the outcome of much clinical experience imagined I could diagnose parental alcoholism from the symptoms evidenced in the offspring. Now I feel that I cannot truly satisfy myself that in any one case there had not been also other factors than alcohol at work, and that the symptoms in the offspring might possibly have been due to the direct inheritance of a neuro-psychosis as well as alcohol.

It is obvious that instances of defective germ plasm in the stock—which may evidence itself by alcoholic tendencies throughout the stock—are instances of heredity pure and simple, and they ought, for the satisfactory solution of the problem before us, to be rigidly excluded. Such a process of exclusion, however, might result in the elucidation of but half the truth, and, as we shall see presently, in order to obtain the whole truth, the question does really involve the consideration of the degenerate and the problems of heredity.

The Eugenics Laboratory Memoir, No. X, did not profess to deal with the direct heredity of alcoholism. It concerned itself only with the offspring of the alcoholic as children.[5] Of the results that drinking produces in the offspring it is stated with a certain degree of truth that "alcoholism in the parent may, like insanity, be the somatic mark of a defective germ plasm in the stock. The child is defective not because the parent is alcoholic, but because it is the product, like the parent, of a defective germ plasm. The child may be physically and mentally fit, and yet, when adult, exhibit alcoholic tendencies."

Their contention does not include, or even refer to, the almost accepted assumption that alcoholism in the normal, as in the degenerate, parent is apt to lead to earlier alcoholism or degeneracy in the offspring. At present my experience leads me to the belief that parental alcoholism accentuates the downward trend, and with each successive generation the period of exemption from alcoholism and degeneracy is shortened, so that the offspring become alcoholic or degenerate at a relatively earlier age. Doubtless, however, this will form the subject for some future memoir, and possibly it may be ascertained whether parental alcoholism in the degenerate does or does not modify, diminish, or intensify the evidences of defective germ plasm in the stock—that is, does parental alcoholism alter the character or degree of the inherited degeneracy in the offspring? It would seem to me that alcohol as a complementary factor to parental degeneracy does aid in the devolution of the stock, and it is upon families which are prone to degeneracy that alcohol appears to put the finishing touches, and renders the physique and ability of the offspring more and more unsatisfactory with each successive generation.

Certain it is that Nature does not permit any prolonged departure from its laws of health and the trend of evolution, as shown by the tendencies for neuroses and psychoses to spread and ultimately wear themselves out in the course of time and with successive generations. This law holds good so long as other complicating factors, such as alcohol, do not add to the burden, and, by attacking the more or less attenuated neuroses or psychoses, keep them alight and thereby frustrate the efforts of Nature to render them abortive. Alcohol, as we all know, will readily set alight and determine the existence of a neurosis or psychosis which might otherwise be on the wane; and not only does it affect the individual and intensify his degeneracy, but it is also open to belief that it renders the offspring more liable to suffer from the transmission of such degeneracy, not only in its parental intensity, but also to be manifested at an earlier age in the progeny.

In the last report from the Galton Laboratory claim is made that alcoholism is, in its *pernicious* forms, consequent on, and not antecedent to, mental defect. This may be true, and, if rightly understood and supplemented by an account of the influence of alcohol in intensifying an already existing nervous defect, it can do no harm to the cause of temperance. That it is the aim of the previous memoir to prove that alcohol may be taken with impunity, no one with any sense of justice will contend; nor need it be imagined that alcohol is in any sense regarded as being capable of aiding the onward and upward trend of biological evolution. Referring as it does to pernicious forms of alcoholism, it is, of course, hardly likely to take cognizance of any statistics based upon the consumption of one glass of beer per day.

"One man's food another man's poison" refers to alcohol as much as it does to any other article of consumption, and it is indeed difficult to differentiate the degrees of alcoholism. Another matter about which there has been much contention, yet which has not yet been referred to in its true bearings, is the fact that in asylum practice it is comparatively seldom that we find the various lesions so common to alcoholism in the sane. The reason for this may possibly be that alcohol selects for attack the least stable of the bodily systems in a given individual. The system may be, by its inherent weakness, more susceptible to attack, or it may be less able to eliminate from its substance the effects of toxic action. Whichever way we look at the question, however, it must be conceded that the pathological findings in the insane are in favour of the Galton theorists, and it is difficult to conceive any explanation of the selective action of alcohol other than by the inherent weakness of the nervous system, as is found in inherited degeneracy.

It is impossible for me to deal with all the points at issue both with regard to parents and offspring and their environmental relations, so I conclude by stating that in my humble opinion it would serve our purpose best could we but find well defined and accurate instances in which defect in the child could be proved to be due to parental alcoholism without the aid of any other causal factor, such as degeneration or faulty environment. Until this can be done, and until we can multiply such instances, any statistics we may compile can only help us to make hazardous half-guesses, which may lead to misinterpretation and the spreading of doctrines and lines of action which may be for the good or ill of the community.

General Conclusions.

1. It is easy to make a tangle of a skein of silk, and nothing is easier than to employ destructive criticism to any theory which may be propounded in reference to the

[4] Hodge's results are even more striking.
[5] They never investigated the offspring, only offspring at the school age.

influence of parental alcoholism on the physique and ability of offspring.

2. The theory, briefly stated, ought to be, Does parental alcoholism (of a pernicious kind)—apart from parental degeneracy, which, together with a tendency to alcoholism, is hereditable—influence the physique and ability of offspring at any age?

3. It is practically impossible to exclude side-issues, variations in standards of health, alcoholism, and degeneracy from consideration, and we have as yet but imperfect conceptions as to what is meant by heredity. Hence we cannot obtain sufficiently accurate data for statistical purposes.

4. The *association*—in contradistinction to *causation*—of alcoholism and degeneration in the parent is insufficiently understood, and the difficulty in distinguishing between cause and effect, both in the parent and offspring, is so great that the decision must be frequently mere guesswork.

5. The present problem requires that parental alcoholism *per se* shall precede conception or the birth of the child; whereas, in the transmission of a psychoneurosis by direct inheritance, the parental alcoholic tendency may be latent, and not come into evidence until after the birth of the child. This necessitates complete differentiation between the two series.

6. Alcoholism would appear to be responsible for a relatively greater number of births than would health or degeneracy without alcoholism, and there appears to be some evidence, derived from experiments on animals treated by alcohol, that their young, although in greater number, were much weaker.

7. Epilepsy, some forms of insanity, defective inhibition and mental enfeeblement, deaf-mutism and stunted growth, although instances of what has been aptly termed the "general controlling determinant," and transmitted by direct heredity, are apt to be not only intensified in the offspring, but they make their appearance at a relatively earlier age, when parental alcoholism has been an additional factor.

8. Parental alcoholism does appear to accentuate the downward trend of inherited psychoneurosis, and with each successive generation the period of exemption from alcoholism and degeneracy becomes shortened, so that the offspring become alcoholic or degenerate at relatively earlier ages. Alcohol would in this way act as a complementary fact to parental degeneracy, and aid in the devolution of the stock.

9. The inheritance of a psychoneurosis (which would tend to diminish in severity with each successive generation, and with the introduction of new correcting influences through marriage) becomes intensified and prolonged when alcoholism becomes a complicating factor. In this way the psychoneurosis is kept alight through a greater number of generations.

10. The conclusions arrived at by the Galton Laboratory School of Eugenics and their critics deal with part only of the general question at issue, and when further investigations shall have demonstrated the influence of parental alcoholism on parental degeneracy, and the combined influence on the physique and ability of offspring, we shall be better able to speak with authority for the guidance of the community.

Sir VICTOR HORSLEY expressed regret that the discussion was evidently going to be one-sided, no representative of the Galton Laboratory being present, although several had been invited. The subject was, briefly, whether children suffered directly from the alcoholism *per se* of the parent, or suffered simply from a psychoneurosis. The scientific work which had already been done—at all events, until last May—all went to show that alcoholism in the parent was followed by adverse consequences in the offspring. But in May they were startled by the conclusions put forward by Professor Karl Pearson and Miss Elderton, showing on certain sociological and toxicological data that, socially speaking, the drinking workman was as good as the sober workman—earned as good wages, and had as good physique and mentality—and that the examination of children of school age showed them to be suffering from no poison that the parents had taken. After complaining of the "extraordinary courtesy" of the Galton Laboratory that in the controversy which had lately been going on they should speak as if he (Sir Victor) were the sole protagonist, and should totally ignore the long labours of his colleague, Dr. Mary Sturge, the speaker reviewed the discussion which had been taking place in the BRITISH MEDICAL JOURNAL, and said that in the forthcoming issue Dr. Sturge and he were dealing with Professor Pearson's statistics and contentions in detail.* He considered that the manipulation of the Edinburgh statistics was really a discredit to statistical science. With regard to alcoholism *per se* in the parent in its influence upon the children, for seven weeks past, by controversial letters in the BRITISH MEDICAL JOURNAL, they had been trying to extract certain simple facts from Professor Karl Pearson as to the incidence of parental alcoholism—that is, whether it came before or after the child—in the cases he quoted. Until they had those figures no one knew into what category to put the children. This week they asked him once more to give them the figures, and if he did not publish them at once the readers of the JOURNAL would form their own opinion upon the matter.

Dr. C. W. SALEEBY said it was of value that Dr. Hyslop should once again have distinguished between two fundamentally different things—namely, that which happened in the case where alcoholism was merely a symptom of degeneracy, and that which happened in a case where alcoholism was brought to bear upon a healthy stock. He (Dr. Saleeby) thought it desirable to consider the theory of blastophoria, and to distinguish sharply between acute blastophoria, by which was meant that the parent was alcoholized on the occasion of conception, so that there was alcohol in the seminal fluid, and the totally different condition of chronic blastophoria, in which the father on the occasion of conception might be entirely sober, although his germ plasm might be suffering from a degeneration in consequence of alcohol. This theory of blastophoria rendered it possible to draw a parallelism between alcohol and lead and arsenic. It was quite evident that a great many further inquiries would have to be made, and there was a great deal to be said for Dr. Hyslop's contention that the question could not be solved satisfactorily by statistics. He considered that Sir Victor Horsley had demolished the statistics of Professor Karl Pearson, but, still, the fact that Professor Pearson believed in them showed how many easy fallacies were involved in the statistical attempt to solve the problem. More experiments must be instituted upon animals. It was possible in animal experimentation to exclude so many factors that furnished a disturbing element in the human subject. Not only did degeneracy ensue more rapidly in animals, but it could be judged both by physical signs and also by whatever was the analogue of mental degeneracy in the lower animals. The experimental inquiry upon the lower animals in the case of lead, and also in the case of arsenic, had shown just what they asserted in the case of alcohol, and the same thing was probably true of phosphorus also, and, indeed, of all the toxic substances for which the placenta was not a filter.

Dr. W. C. SULLIVAN said that the main source of confusion of thought lay in the want of a clear understanding as to what was meant by alcoholism. Until quite recently—indeed, until last May—alcoholism was always taken to mean chronic alcoholism in the medical sense. The most cogent and demonstrative observations on this subject were those instances in which non-alcoholized individuals had had healthy children, and then, upon becoming alcoholic, had had unhealthy children. In Professor Karl Pearson's first memoir the parents were described as alcoholic when, in the opinion of the social workers, they were drinking more than was good for themselves or their homes. If that was not offered as chronic alcoholism, it was not pertinent to the writer's point; and, if it was offered as chronic alcoholism, then the authors of this memoir were prepared to believe that in an Edinburgh elementary school, and one specially selected for its widely representative character, the fathers of over 64 per cent., and the mothers of over 34 per cent., of the boys were suffering from chronic alcoholism. If any teetotal advocate in his wildest flights had made such an assertion he would have been regarded as a lunatic.

Among other speakers were Mr. RYLEY, who said that in his experience the male portion of the family seemed

* See p. 74.

oftener to escape the inheritance of alcoholism than the female; Dr. CLAUDE TAYLOR, who thought that personal experience, even though it might be drawn from a much smaller area, was more valuable in such a matter as this than statistics, which only gave the position at a given moment; and Mr. THEODORE NIELD, who regretted that Dr. Hyslop had not endorsed more heartily the later work of Laitinen.

Canon HORSLEY referred to the exceptional opportunities of the parish priest in compiling observations upon this subject, particularly when he had worked among his people for a number of years. He had not found it difficult to ascertain the history of increasingly alcoholic parents and trace their increasing indulgence in the decreasing physique of their children. He noted particularly the increased instability and lack of self-control among the children of tipplers on arriving at puberty.

Dr. HYSLOP, in closing the discussion, said that he believed the majority of the medical profession did not really know what the problem was. A great debt of gratitude was owing to Sir Victor Horsley and Dr. Mary Sturge, who had prevented an undisputed acceptance of imperfectly-digested statistics and statistics founded upon wrong data. They had learned one thing—and he repeated it with all the emphasis of which he was capable—namely, that a person who had in his family the slightest predisposition to any psychoneurosis should never dare to touch alcohol. Alcohol in such a case would settle upon the nervous system and intensify and transmit the degeneracy. With regard to Professor Laitinen, he respected his work very much and he did not quarrel with his statistics. But he did not think that the time was ripe for the acceptance of all his data, and also that Professor Laitinen did not distinguish between a purely alcoholic parent and a parent who, in addition to being alcoholic, had also a degenerative tendency.

THE BOARD OF TRADE VISION TESTS.

WE are requested to publish the following letter. The committee referred to is that appointed by the President of the Board of Trade last year to inquire what degree of colour blindness or defective form-vision in persons holding responsible positions at sea causes them to be incompetent to discharge their duties; and to advise, whether any, and if so what, alterations are desirable in the Board of Trade sight tests at present in force for persons serving, or intending to serve, in the merchant service or in fishing vessels, or in the way in which those tests are applied.

The Institute of Physiology,
University College,
London,
Jan. 3rd, 1911.

Sir,—I have been strongly advised to write to you with regard to the composition of the Colour Vision Committee appointed by the Board of Trade. Though the overwhelming majority of experts are on my side with regard to the extremely inefficient wool test used by the Board of Trade, not a single one of those who have been instrumental in bringing about the appointment of this committee is on it, whilst those who are definitely associated with the wool test very largely form its expert opinion. The president of the old committee that recommended the wool test is on the committee, and the secretary is a physicist who employs the condemned method, and is a strong advocate of the wool test.

Twenty years ago I was appointed on the International Code of Signals Committee to advise the Board of Trade as to efficient tests for colour blindness. When the Committee of the Royal Society (which like the present committee had a large majority of physicists, there being only one physiologist) recommended the Holmgren test, and that it was not necessary to have a medical man to test for vision and colour vision, my connexion with the Board of Trade ceased, my place being taken by a physicist, the Secretary of the Committee. Therefore, for this obviously medical duty the Board of Trade does not employ a single medical man.

Colour blindness is a physiological subject, and a knowledge of physiology, psychology, and ophthalmology are necessary for its appreciation. One of the two physiologists appointed by the Board of Trade has, through illness, not been able to attend the meetings of the committee. I would suggest that the number of physiologists be made equal to the number of physicists.

I have done everything in my power to help the committee to come to a correct conclusion, and shall continue to do so. They have, however, made this very difficult for me, as I wished to make it a condition that I should be present when they examined any of my colour-blind cases, men who are able to pass the Holmgren test. This they refused, so I withdrew the condition, but had they acceded this letter would never have been written.

I am, Sir,
Faithfully yours,
F. W. EDRIDGE-GREEN.

The President of the Board of Trade.

BRITISH MEDICAL BENEVOLENT FUND.

AT the December meeting of the committee twenty-seven cases were considered and grants amounting to £220 made to twenty-five of the applicants.

Appended are particulars of the cases relieved:

1. L.S.A., aged 60. Is temporarily incapacitated, and when helped earlier in the year was given leave to apply again in six months' time. Relieved once, £10. Voted £5.

2. M.R.C.S., L.R.C.P., aged 42. Is in ill health, and dependent on help from friends. Wife gives music lessons. One child, aged 8. Voted £5.

3. M.R.C.S., L.R.C.P., aged 47. Quite incapacitated and dependent on friends. No children. Voted £10.

4. Widow, aged 50, of M.R.C.S., L.S.A. Unprovided for at death of husband six months ago, and has been obliged to give up a post as companion on account of a nervous breakdown. No children. Voted £5.

5. Widow, aged 61, of M.R.C.S., L.S.A. Husband's savings were exhausted by a three years' illness preceding death, and applicant endeavours to support herself by taking boarders. Seven children, but one an invalid, and the others only just self-supporting. Voted £12.

6. Widow, aged 53, of L.R.C.P., L.R.C.S.Edin. No income; no children; lets lodgings. Voted £5.

7. Widow, aged 64, of M.R.C.S., L.S.A. Lost her husband a few months ago after a long illness, and is endeavouring to obtain resident patients or paying guests. Voted £6.

8. Daughter, aged 55, of late M.D.Aberd. Has supported herself until recently, but is now broken down in health. Voted £10.

9. Widow, aged 70, of M.R.C.S., L.R.C.P. Slight provision made by husband has to be supplemented by gifts from friends, and is quite inadequate for present unavoidable expenses due to illness. Voted £5.

10. Widow, aged 59, of M.R.C.S., L.S.A. No income, and has exhausted the proceeds of the sale of her furniture. Health very feeble. Relieved once, £16 Voted £10.

11. Widow, aged 75, of M.R.C.S. Dependent on an old age pension and occasional gifts from friends. Relieved twice, £24. Voted £12.

12. Widow, aged 69, of M.R.C.S. No income and dependent for a home on a son-in-law, who can ill afford to assist. Relieved once, £10. Voted £10.

13. Widow, aged 49, of M.R.C.S. Husband's means exhausted by a long illness ending in death, and applicant is endeavouring to establish a boarding-house. Relieved once, £10. Voted £10.

14. Widow, aged 52, of M.R.C.S. Nursed her husband for several years before his death, and is now herself incapacitated and a candidate for a pension from a home for incurables. Dependent on two sons whose earnings are very small. Relieved seven times, £92. Voted £10.

15. Widow, aged 51, of L.S.A. No income, and health too uncertain to attempt regular employment. Two daughters, aged 18 and 16, the latter having just obtained a post as governess. Relieved five times, £46. Voted £12.

16. Widow, aged 66, of L.R.C.P. Only income a few shillings a week from a house, if let. No children. Relieved eleven times. £126. Voted £12.

17. Widow, aged 75, of M.D.Glas. Endeavours to support herself by taking lodgers, but is unable to pay her rent, which is considerably overdue. Relieved seven times, £36. Voted £5.

18. Daughter, aged 64, of late M.D.Edin. Has supported herself for many years as a companion, but is now dependent on this Fund and another charitable society. Relieved six times, £72. Voted £12.

19. Daughter, aged 70, of late M.R.C.S., L.S.A. Takes boarders, but finds it impossible to make both ends meet, and is in arrears with her rent. Relieved three times, £20. Voted £10.

20. Widow, aged 54, of L.R.C.P., L.R.C.S.Edin. No income, and is in very bad health. Children only able to give slight help. Relieved four times. £48. Voted £12.

21. Widow, aged 66, of M.R.C.S. Receives a pension from Epsom College, and requires a little help in consequence of the unavoidable withdrawal of assistance by friends. Relieved six times, £54. Voted £10.

22. Widow, aged 65, of M.R.C.S. Dependent on the help of two relations and small profits from a boarder, if able to obtain one. No children. Relieved once, £6. Voted £6.

23. Widow, aged 65, of L.R.C.P., L.R.C.S.Edin. Has supported herself since husband's death several years ago, but is now crippled by rheumatoid arthritis, and dependent on a sister who is a teacher. Relieved once, £12. Voted £12.

24. Daughter, aged 63, of late M.D.Edin. Gave up a post as companion to nurse an elder sister, who is a permanent invalid and is dependent on this Fund and a small yearly grant from an old friend. Relieved five times, £60. Voted £12.

25. Daughter, aged 40, of late F.R.C.S. No income and

unable to follow any regular occupation on account of ill health. Relieved ten times, £96. Voted £2 and case to be reconsidered in a month's time.

Contributions may be sent to the Honorary Treasurer, Dr, Samuel West, 15, Wimpole Street, W.

LITERARY NOTES.

PERHAPS the most attractive among the contents of the December number of *L'Hygiène* is a long and very interesting article by Professor Charles Richet, which was originally delivered in the form of a lecture at a meeting of the French League of Physical Education held at the Sorbonne last April. The famous scientist has chosen for his subject "The Education of the Mind and of the Body," and, whilst insisting upon the close connexion which exists between the spiritual and material well-being of the normal human being, he lays stress on the urgent necessity of bodily exercise for every one, men and women alike, not only for the sake of the mental and physical health of the individual, but for the future welfare of the entire race. He does not hesitate to declare that if it were possible for every man, woman, and child, particularly those engaged in sedentary occupations, to devote a couple of hours daily to the exercise of their muscles, a great deal of unnecessary suffering might be averted, both from themselves and from their descendants. The views of Professor Richet will doubtless commend themselves particularly to his English readers, who will be flattered at the comparison drawn between the schoolboys and students on either side of the Channel, and the unstinted praise bestowed upon the English system of including sports and games in the curriculum of every school. It is interesting to learn that he regards walking as the first and finest of all exercise; for those who do not care for this form of muscular exertion he recommends gymnastics, Swedish or other, according to individual tastes. The present number of *L'Hyyiène* also contains a short account of the methods employed by the French Government during the present epidemic of cholera in Italy to prevent the spread of the disease into France, and a most interesting article by Edmond Cleray on prophylaxis in the olden time. Our forefathers apparently considered the air to be the principal agent of infection; and in France, during the sixteenth, seventeenth, and eighteenth centuries there existed an elaborate system intended for the disinfection of the atmosphere of a town or district during an outbreak of cholera or plague. With regard to these ancient methods of disinfection, it is a curious fact that whilst boiling water was freely used on such occasions, it never seems to have occurred to anybody that this process might be used to make it safe to drink. This is all the more remarkable as the method was known to the ancients. The December number of *L'Hygiène* also includes an account of modern hospitals by Professor J. Courmont, and a charming little sketch of the late Professor Raymond, by Dr. Maurice de Fleury; whilst "Le Docteur" has contributed an article on migraine which should prove useful to the many sufferers from this distressing complaint. We are glad to note that this periodical, which has undertaken the important mission of popularizing hygienic science, shows every sign of fulfilling the promise of its beginning.

The January number of the *Caledonian Medical Journal* contains a most interesting article by Dr. A. Don, of Dundee on "The Old and the New in Surgery," in which the author draws some striking comparisons between "the surgery of forty years ago, as practised in a Highland glen, with the methods used in a modern hospital or in the private practice of an operating surgeon of to-day." Forty years ago the Highland glen of which Dr. Don speaks was twenty miles from the nearest railway, and this remote district, which covered an area of some twenty miles by ten, afforded a precarious means of livelihood to a solitary practitioner who seldom succeeded in earning as much as £200 a year. Dr. Don gives a charming description of this country doctor, the

> big, rough-clad, gruff-spoken man, with a temper as varied as the weather and a heart that would have done credit to M'Clure of Drumtochty. He seldom was seen except on horseback . . . every one liked him, trusted him, and feared him, and rarely spoke to him till he addressed them. . . . He breakfasted, dined, and supped wherever his work found him—where the homely fare proved less palatable than he desired, he would call at some neighbouring farm and have tea with the goodwife. He was a shrewd observer of disease, wrote a prescription only when absolutely necessary, and his prognosis was rarely at fault. . . . He was ready to attend the sickly pauper as quickly as the laird's child, and would attend neither unless he considered their illness sufficiently serious.

Owing to the long distances and the roughness of the roads, communication between the doctor and his patients was occasionally a matter of extreme difficulty, and we are not surprised to learn that at times the former was obliged to spend several days away from his own home whilst attending a dangerous or a lengthy case. His labours, indeed, are aptly described by the following lines (quoted by Dr. Don, from the *Edinburgh Annual Register* for 1817), which might have been written especially for him:

> To ride, regardless of all weather,
> Through frost, and snow, and hail together—
> At every quarter of the compass,
> A surly patient makes a rumpus,
> Because he is not seen the first
> (For each man thinks he is the worst).
> And oft at two points diametric
> Called to a business obstetric.
> For days and nights in some lone cottage,
> Condemned to live on crusts and pottage,
> To kick his heels and spin his brains,
> Waiting, forsooth, for labour's pains;
> Now comes the night, with oil oppressed,
> He seeks his bed in hope of rest;
> Vain hope, his slumbers are no more,
> Loud sounds the knocker at the door.
> A farmer's wife, at ten miles' distance,
> Shouting, calls out for his assistance;
> And, as he yawning heaves his breeches,
> Envies his neighbour blessed with riches.

As might be expected, in a place where it was out of the question to call in the doctor at a moment's notice, home remedies played an important part in the treatment of minor ailments; whilst the obstetric cases were generally managed by "handy women," selected by the doctor himself. "Few cases were treated away from home," says Dr. Don, for "to be sent to the infirmary was like a death sentence, and those requiring surgical treatment preferred their own doctor and their own home." It might be added, in many cases they also preferred their own remedies, and fearful and wonderful some of these latter were. Cancer, for instance, was never treated by the knife. Plasters of fresh cow-dung were applied daily to a cancerous breast, whilst a sovereign remedy for a rodent ulcer in the face was "a lump of raw meat to assuage the ravenous appetite of the disease." A certain "Wily Peter" became quite famous throughout the entire district as a healer of sores and ulcers, his miraculous powers apparently residing in his big toe, with which he was wont to rub the diseased part. "Injuries involving bones or joints, as well as compound fractures or lacerations," says Dr. Don, "were almost invariably fatal owing to the treatment," which is not surprising, considering that such injuries were, first of all, poulticed with oatmeal or bran, mixed with vinegar or sour ale, and then treated with applications of boiled dock-leaves or nettles, mashed turnips, or even urine and faeces. Small wonder that few recovered! Dock-leaves were likewise considered a useful specific in the case of burns and stings, as was also the common house leek; and sprains were treated with pig's fat, taken "fresh from the region of the kidney." Perhaps the oddest remedy of all, however, was the application of skin from the outside of a ham for muscular rheumatism. Naturally, the glen possessed a whole pharmacopoeia of home-made salves and ointments, some of which were "secret remedies" in the most literal sense of the word, and jealously guarded as such by their fortunate owners. Most of the ointments, however, seem to have been composed of oils, beeswax, lard, and butter, mixed in varying proportions, with the occasional addition of the yolks and whites of eggs. But it was not everybody who believed in the efficacy of these homely prescriptions. It is evident that some pinned their faith to a simpler and more universal panacea; and Dr. Don tells an amusing story of a man whose faith in the power of therapeutics was briefly summed up in the following words: "If whisky canna cure a man and tar a sheep, they're no worth curin'."

British Medical Journal.

SATURDAY, JANUARY 14TH, 1911.

THE MONMOUTHSHIRE DIVISION AND THE NEWPORT EDUCATION AUTHORITY.

IN the SUPPLEMENT to this week's issue of the JOURNAL (p. 19) will be found a correspondence between the Monmouthshire Division and the Newport Education Authority which presents some points of special interest at the present time, when the question of school clinics is being keenly discussed in London and in different parts of the country. We need not here discuss the subject as a whole; but we think it right to direct attention to the manner in which the question of the provision of treatment for school children has been dealt with by the Monmouthshire Division, as it affords an example of the way in which the British Medical Association may use its influence for the good of the public as well as for the promotion of the best interests of the profession.

We need only briefly outline the situation: The Education Authority decided to appoint a special officer who would act as medical inspector of the school children and also treat those whom he might find defective. To this the Monmouthshire Division objects, urging the importance in the interest of the children of the treatment being carried out by local medical practitioners, and pointing out that the dual authority which it is proposed to place in the hands of one person is contrary to the public interest. Instead of the plan adopted by the Education Authority the Division submitted a scheme which seems to us in every way satisfactory. For the children it would ensure the best professional skill available, and it would at the same time be fair to the local profession. Parents who are compelled to have their children medically examined have the right to ensure that the bodily defects revealed by the inspection shall be properly treated. It is surely wrong in the public interest as well as a violation of natural sentiment that people who have not the means of choosing their own doctor should be compelled to submit their children for treatment to one practitioner selected for the purpose by an Education Committee. Doubtless the medical inspector will in the large majority of cases be competent to discharge the duties of his post, but he will almost necessarily often be comparatively inexperienced, and however competent he may be to deal with the commoner defects revealed by inspection, it cannot be expected that he will be an all-round expert, able to treat the various defective conditions of the eye, the throat, the nose, the ear, and the teeth. Every one now knows that such conditions, if left unrelieved, have often a far-reaching effect, not only on the bodily health but on the intelligence and even the moral character of the child. It is a point which need not be laboured—that the future of the race depends on the removal of all possible hindrances to the development of the young into strong and healthy citizens. The provision of adequate treatment for defective children is therefore a matter of national concern, and local authorities to which the discharge of this important duty is entrusted must be held guilty of a serious offence against the State if they fail in its performance.

In rejecting the scheme proposed by the Monmouthshire Division, the Newport Education Authority has committed itself to a short-sighted policy. Indeed, we do not hesitate to say that it has shown itself deficient in a sense of the duty which it owes alike to the children under its jurisdiction and to the community of which they are the rising hope. If the Committee has been actuated by financial considerations, we may remind it that the saving of a small expenditure at the cost of the public weal is a false economy. It cannot shelter itself behind any absurd plea of "medical trade unionism"; the correspondence shows that the Monmouthshire Division in its proposals has had the public interest mainly in view. We hope that even now the Newport Education Authority may listen to wiser counsels than those by which it has been influenced, and may be induced to reconsider the ill-advised decision to which it has been led.

We are glad to note that in regard to this matter the action of the Monmouthshire Division has the strong support of the *South Wales Argus*. In its issue of January 6th that influential newspaper, which may be taken to express the best local opinion in regard to this matter, discusses the question in a leading article which puts the case so fairly that we need make no apology for quoting part of it. After pointing out the chief objections to placing all the work, both of inspection and of treatment on the shoulders of the officer as the Education Authority proposes to do, our contemporary proceeds: "We do not know—for there is not sufficient evidence before us to form an opinion—whether the scheme of the authority would be less costly than that propounded by the medical men of Newport. It may be that the expense of the latter would be greater. If so, on the face of it, the difference could not amount to much; but even if it meant the expenditure of a few hundred pounds a year more, the outlay would be in the nature of the truest economy, and would be justified on every ground of expediency and justice. If children are to be subjected to surgical operations, then surely the bounden duty of a public authority is to provide the best services that can in reason be obtained. One part of the proposal of the local Division of the British Medical Association is that specialists in certain departments—men of repute and experience—should be appointed for the work, the appointments being annual, and in the hands of the authority itself. Surely there is nothing extravagant in this proposal; nor does there seem anything extravagant or unreasonable in the scheme as a whole. In the true interests of the children, of the men and women of the near future, we sincerely hope that the members of the Education Authority will again consider the matter, and, considering it, will arrive at what—so far as our acquaintance with their scheme goes—may be described as a decision wiser and more fruitful of beneficial results than can apparently be the case if they persist in the course which it is assumed they propose to follow."

To this we have nothing to add but to call the attention of any young practitioner on the outlook for a post to the Warning Notice which has already appeared in the advertisement pages of the BRITISH MEDICAL JOURNAL.

"606" TO DATE.

THE birth, infancy, and early youth of "606" have been accompanied by so many novel features and the methods of employing the remedy have varied so much, almost from day to day, that a rapid review of the present situation will not be out of place.

It is usual in the medical world—or rather it has been usual—for new methods and new remedies to be worked out carefully, both clinically and in the laboratory, before they are communicated to the outer lay world. In the present instance, however, this excellent procedure has not been followed. The lay press started "booming" the remedy in an unprecedented manner, and the result of all this has been that the strangest opinions have been formed as to the use and effects of the new remedy. One is that "606" will certainly cure syphilis in one injection. This, of course, has already been shown to be erroneous. And it may be stated at once that Professor Ehrlich apparently never expressed the opinion that "606" would cure in one injection, though that was aimed at. It is necessary, too, to insist on the fact that no one regrets more than Professor Ehrlich that matters were taken up by the lay press in the way they were. His laborious investigations as a scientist are too well known to need recapitulation in this place. Moreover, the world is under a great debt of obligation to him and Dr. Hata, and their collaborators, for a remedy that has already shown itself of great value in the struggle against one of the worst enemies of the human race, the *Treponema pallidum*.

In the short time that has elapsed since "606" was first synthetized and experimentally employed in animals, the remedy has rapidly undergone improvements and successively become "606 ideal," "606 hyperideal," and now "Salvarsan." The great improvement has been in the direction of solubility, facilitating greatly its use.

Pari passu with these improvements, the methods of employing "606" also have been rapidly developed. The original methods have given way to new ones, more simple and less painful, and the manipulations have been reduced and simplified as far as possible. The rather complicated early methods, leading to overhandling and therefore to risks of sepsis, have given way to more simple ones. Wechselmann's method, for instance, has been abandoned, and others, too, which were really mediocre in their conception, have gone by the board. In some instances necrosis of tissues occurred some weeks after the injections. The injections, moreover, were very painful.

Another point which must be considered is the reaction of the solution employed as an injection. It has been variously recommended that this should be neutral, alkaline, or acid. The acid injection was at first greatly objected to by those who were wedded to the original complicated method and who had not tried the other. Duhot of Brussels and Traege of Freiburg im Breisgau, however, have used "606" as an acid intramuscular injection with excellent results, and with less discomfort to the patient than was produced by the original way of preparing the solution for injection. Moreover, the acid method is extremely simple, requiring little manipulation. Indeed, there is no pain at the time of injection and not for a few days, so that this method has been carried out in the consulting-room, provided, of course, the patient went home to bed at once and stayed there for some days. But some patients have not even carried this out, and apparently have not experienced any bad effects. This course is not recommended, however, and it is far better to have the patient under control in bed.

Another great advantage of this method is that only small quantities of fluid need to be injected into the muscle; in Duhot's case, for instance, about 6 c.cm. or so, half this quantity being injected on one side and half on the other, not too deeply, into the muscle, and high up on the buttock, thus avoiding the sciatic nerve. This intramuscular acid injection should be done in two movements, the needle being first introduced and the solution injected by a second movement, as in the case of insoluble preparations of mercury. This is to avoid sending any of the solution into a blood vessel.

Still another method of employing "606," in intramuscular injection, is in oily suspension, as advocated by Kromayer, and by Lafay and Lévy-Ring. The method is simple, and answers well in avoiding pain. At first, it was objected that the remedy introduced in this way was too slow in its action. But now observers are coming round to it, and Professor Ehrlich is said to look on it as an alternative for the intravenous method, in which mode of administration the remedy is rapidly carried through the body and also rapidly eliminated, whereas in intramuscular oily suspension the effect is prolonged. Intramuscular injection in ordinary solutions occupies an intermediate position, and the ordinary intramuscular solutions may turn out to be the best in the long run, although at the present moment the intravenous method is the favourite in some quarters, and is indeed the method recommended for Salvarsan, the trade name of "606." These alternative modes of introducing the remedy into the body must be taken into account, but in all probability the three methods will ultimately all be found of use according to circumstance. Moreover, in the intramuscular method, larger doses can be used than is the case for intravenous administration. And of the intramuscular modes, the acid solution method is so readily applicable that it must play an important part in the future.

The subcutaneous or true hypodermic method appears to be practically given up. It is important to emphasize the distinction between the hypodermic method and that by intramuscular injection, the former term being but too frequently employed when the latter is really meant. This is very misleading, and in the case of mercurial injections has in the past led to complications.

The intravenous injection can be carried out in various ways. Schreiber employs a syringe on the principle of Dieulafoy's for tapping, except, of course, that the instrument is used in the reverse way. It is a simple plan if the solution has been carefully prepared. Weintraud attaches the rubber tube directly to the vessel containing the solution. Emery has devised another method which reduces the amount of handling and is ingenious; in this the solution is filtered, so that the risk of a solid particle passing into the vein is avoided. This has happened, but apparently with only temporary trouble. The points in the intravenous method are: To be sure the needle is in the lumen of the vein, to avoid injecting air, and to see that the solution is perfect. In some instances the solution has, in error, been injected around the vein. This is one drawback of the method; another is the risk of thrombosis of the vein. After the intravenous injection there may be vomiting, diarrhoea, and a rise of temperature, but altogether

these complicating symptoms are evanescent. The intramuscular injection of the acid solution has already been referred to. As to the solution prepared by the addition of NaHO, that is injected slowly into the gluteal region. The quantity used is larger than in the case of the acid solution, and the sciatic nerve is more likely to be interfered with. The pain and swelling which follow the NaHO solution are greater in the usual run of cases than with the acid solution, but the personal equation *qua* pain must be considered. In intramuscular injections the point to bear in mind is to make the injection slowly in order to avoid dissociating the muscular fibres roughly. The intramuscular injections in oily suspensions are carried out in two movements as for insoluble preparations of mercury.

OUTDOOR RELIEF ORDERS.

By the courtesy of the President of the Local Government Board, we have received an advance copy of the report of the Departmental Committee appointed last March by the President of the Local Government Board to inquire and report whether any, and if so what, amendments should be made in the orders issued by the Poor Law Commissioners, the Poor Law Board, and the Local Government Board relating to the administration of outdoor relief in England and Wales.[1] The committee, which consisted of Sir Samuel Butler Provis, K.C.B., Permanent Secretary to the Local Government Board; Mr. James Stewart Davy, C.B., General Inspector of the Local Government Board; Mr. Walter Tapper Jerred, an Assistant Secretary to the Local Government Board; and Mr. Thomas Smith, Clerk to the Guardians of the West Ham Union, held thirty sittings. The report of the committee states that the problem before it has been determined mainly by two considerations—first, the recommendation of the Royal Commission that there should be one uniform order governing outdoor relief or home assistance; and, secondly, that its function was rather that of amendment than the elaboration of any new scheme of relief. The committee has accordingly prepared a draft for a new and uniform Order based mainly on the provisions of existing Orders. The Orders which it has been considered desirable to revise are: (1) The Orders known as the Outdoor Relief Prohibitory Orders; (2) the Orders known as the Outdoor Relief Regulation Orders; (3) the Orders known as the Outdoor Labour Test Orders; and (4) the Orders known as the Modified Workhouse Test Orders. The provisions of these Orders are given in appendices, and it is sufficient to say here that the Prohibitory Orders are so called because they prohibit the grant of outdoor relief to able-bodied persons and their families, except in certain specified cases, while the Regulation Orders do not prohibit outdoor relief, but impose certain conditions on its grant. The title of the Labour Test Orders speaks for itself; while the Orders of the fourth group refer to the grant of outdoor relief to the family of an able-bodied man while he is being relieved in the workhouse. Other Orders have also been under survey, such as the Boarding-out Orders, those relating to the constitution and powers of Relief Committees, and the Relief (School Children) Order, 1905, but it was thought better not to deal with these at once. We propose next week to summarize the interesting account given by the committee of the evolution of the Orders now in force, and to show how far the committee considers that its present proposals would carry out the principal recommendations of the Royal Commission on the Poor Law with regard to outdoor relief. The committee had special regard to the emphatic recommendation of the Royal Commission that there should be one uniform Order dealing with outdoor relief, and seeing that the general inspectors of the Local Government Board who were consulted were unanimous in approving the form of the Prohibitory Order with the provision when necessary of a subsidiary test, and also that this form had already commended itself to the committee, an Order was drafted which is intended to unify administration on these lines. The draft was then submitted to all the general inspectors and to the Poor Law medical inspectors, and revised after consideration of their comments. The text will be found in the SUPPLEMENT (p. 20).

[1] The report has now been issued, price 6d.

SICKNESS AND INVALIDITY INSURANCE.

On January 10th the Chancellor of the Exchequer received a deputation representing the deposit friendly societies on the subject of the sickness and invalidity scheme of the Government, an outline of which was published last week. The deputation, which, it was stated, represented a quarter of a million members with a capital of two millions, consisted of representatives of the Hampshire General Friendly Society, the National Deposit Friendly Society, and the Teachers' Provident Society. The proceedings were private. That Mr. Lloyd George intended to receive such a deputation was indicated in the article referred to last week, where it was also stated that he would receive representatives of the dividing societies and of companies providing either a general sickness insurance or an insurance against infectious diseases. We notice that Mr. T. Barnes, Grand Master of the Ancient Order of Foresters, has stated that the provisional scheme of State insurance given into his hands by the Chancellor of the Exchequer under a pledge of secrecy did not correspond with the scheme outlined in the *Times* and *Manchester Guardian* last week. That article, he said, was very different from what he would have said, had his mouth not been sealed. The outline was both inadequate and incorrect, and did not fairly convey the proposals of the Government. The present position, therefore, is very obscure, and it is clear that the medical profession must not relax its vigilance, and that the British Medical Association must persevere in the task of ascertaining the opinion of the profession and settling a policy for the future whatever the scheme may prove to contain when it is finally promulgated officially.

ADVERTISING AND UNQUALIFIED PRACTITIONERS.

In the series of articles which have appeared in our pages during recent years, giving the results of analyses of various nostrums advertised for the treatment of disease, many instances have been given of advertisers who do not supply their wares through the ordinary channels of retail trade, but through the post direct to the patient, and their general method of procedure includes the sending of a list of questions—usually called a "diagnosis form"—to be answered, so that the patient is at least led to suppose that his case receives individual attention from some expert who remains in the background. The article concluded this week, on the analysis of "nerve tonics" and remedies for the results of sexual excesses, includes a larger proportion than usual of instances of such practices. Some of the preparations dealt with are proprietary medicines obtainable in the ordinary way from any patent medicine dealer; the most noticeable features of

these are the extensive nature of the claims made for simple and commonplace combinations of phosphoric acid with vegetable bitters, or of sulphate of iron, and the usual disproportion between the cost of the ingredients and the price charged for the article. But the persons who give their attention specially to treating the effects of sexual excesses and venereal diseases appear in most cases to prefer another kind of procedure. The usual plan is to advertise a book on the subject, to be sent free on receipt of postage. When the prospective patient receives the book, he finds it to be a treatise dealing with affections of the generative system in a way not likely to lead him to be remiss in seeking a cure for any complaint of the kind from which he may be suffering, or may suppose himself to be suffering, and suggesting the conclusion that the only medicine or treatment of real value is that supplied, usually at a charge of one or two guineas, by the firm issuing the book. The letters which are then sent at intervals to induce him to undergo the "treatment" contain numerous references to "our consulting physician," or "our specialist," etc.; a list of questions to be answered is sent, and in some cases a sample of urine asked for, though, to judge by the examples given, the latter proceeding seems to be a farce. When the patient has parted with his first guinea, it seems apt to be found that his case is a complicated one, imperatively requiring some additional medicine, for which a further guinea or more is to be sent. The medicines supplied are, as the analyses show, such as allow a gross profit of nineteen-twentieths, or thereabouts, of the money obtained. If there were any real expert study of the case by a properly qualified and competent person, it might be right to consider the fee as paid for professional services, and not primarily for the medicine; but occasionally the veil of mystery surrounding "our consulting physician" is lifted (see, for example, British Medical Journal, January 1st, 1910, page 40) by evidence in a coroner's court or in some other way, and it is then seen that this individual, if not wholly mythical, is somewhat shadowy, or perhaps it would be better to say shady. It might have been supposed that mere common sense would lead the public to recognize that even if any real expert would consent to work under such conditions of anonymity, no satisfactory diagnosis could be made in the manner pretended, and that the paying of a fee for advice in such circumstances is a very different thing from paying for the attention and skill of an expert who really investigates his cases. But it is evident, from the way these concerns flourish, that the power of suggestion by advertisement is, in many persons, far greater than the powers of reflection; the question of how best to deal with such medical practice by unqualified persons is one which will have to receive more attention in the near future than it has hitherto received.

THORIUM RADIO-ACTIVITY AND ITS FUTURE IN MEDICINE.

During the last five years a large amount of work has been done, chiefly by Otto Hahn in Berlin and Rutherford and Soddy in Great Britain, upon the highly concentrated radio-active products of thorium. In a paper read before the Roentgen Society on January 5th Professor E. Rutherford, F.R.S., described these researches and the large radio-active family which now surrounds this metallic substance. Dealing first with the radio-active gas or emanation which diffuses out of a thorium compound, Professor Rutherford said that this emanation disappeared at a definite rate, one-half of it breaking up in fifty-four seconds, one-half of the remainder in the next fifty-four, and so on. But this emanation could give an active deposit, which analysis showed to consist of four substances breaking up successively the one into the other, and named thorium A, B, C, and D. Each of these transformations was accompanied by the expulsion of an alpha particle—really a charged atom of helium—after the usual manner of changes in radio-active substances. All these substances were unstable, the longest lived, thorium A, having a half-period of 10.6 hours and governing the disappearance of the active deposit as a whole. But thorium D, the last of this succession, emitted beta and gamma rays, and therefore, although a plate covered with this deposit would lose its activity in the course of a few days, the possibility of getting exceedingly active plates, the activity of which would last for a day or two, was a practical consideration. In the case of radium the activity practically disappeared in two or three hours; in the deposit from thorium emanation it lasted as many days. Professor Rutherford then turned to the radio-active substances derived from thorium itself, and not its emanation, beginning with thorium X, which was left in solution after precipitating thorium by ammonia. This fell to half-value in 3.6 days. Working with some of the residues obtained in the production of thorium from thorianite, Hahn discovered that another substance must be present, radio-thorium, which declined to half-value in two years. Finally, in attempting to separate radio-thorium directly from thorium, the presence of another intermediate substance was disclosed, and this was named meso-thorium. If considered apart from its spontaneously appearing products, meso-thorium decayed to half-value in 5.5 years. It emitted fairly penetrating beta and gamma rays, and although initially it had no alpha-ray activity, it would in the course of a few years "grow" radio-thorium, which did emit alpha rays and ultimately changed into thorium X, and thorium X into emanation. They knew that the maximum amount of radio-thorium that was going to be "grown" from meso-thorium would be reached in 4.62 years. The activity of a preparation of meso-thorium would thus rise for about 3.5 years after its separation, when it would be from one and a half times to twice as great as it was initially. It would then die away with time, but even after ten years the activity of the transforming product would be higher than that of the original meso-thorium at its separation. The preparation could be standardized on that basis. The labour of separating these highly-active preparations of meso-thorium was made the easier because some 700 tons of thorium annually had to be produced for commercial purposes. But the work of extraction of thorium from the monazite sand, and of meso-thorium from the thorium residues (the meso-thorium would contain the small proportion of radium that was in monazite sand) was many times greater than that involved in the extraction of radium. Nevertheless, it could and would be done, because thorium was wanted commercially, and, once obtained, the separation of these active substances had no effect upon its commercial application and entailed neither injury nor appreciable waste of the main product. He anticipated that the price would be much lower than the present price of radium, which was quite fantastic. For medical purposes meso-thorium was just as good as radium. Its beta rays had equal penetrating powers, and its gamma rays were perhaps slightly more penetrating. Whatever physiological effects radium possessed, meso-thorium seemed likely to possess the same. The one substance might differ from the other

a little in speed, which would possibly be important ultimately, but for the present it was not a matter that need be taken into account.

THE PARIS HOTEL-DIEU.

PROFESSOR A. GILBERT'S opening lecture at the medical clinic of the Hôtel-Dieu, Paris, which appears in the first number of the new journal, *Paris Médical*, of which he is editor, contains an extremely interesting account of a hospital which is one of the oldest in Europe, and the most famous in France. The origin of the Hôtel-Dieu is lost in the mist of antiquity, its foundation being attributed by some authorities to Bishop Inchad, who flourished in the ninth century, and by others to Saint Landry, who had been Bishop of Paris two hundred years earlier. It arose under the very shadow of Notre-Dame, and and for three hundred years was known successively as the "Hospice Saint-Christophe" and the "Hospice Notre-Dame," until it was rebuilt at the end of the twelfth century, and christened the "Maison-Dieu de Paris," whence is derived the title it has borne ever since. During the centuries which elapsed between this reconstruction and its restoration in the seventeenth century, many of the French Kings interested themselves in improving and adding to the hospital buildings. St. Louis took the institution under his especial protection, whilst his predecessor, Philip Augustus, amongst other favours, generously granted it "all the straw from his room and his house in Paris, every time he vacated it to sleep elsewhere"! Restored on a magnificent scale in the seventeenth century, the Hôtel-Dieu—partly demolished by fire three separate times during the years which immediately preceded the Revolution—was rebuilt on its ancient site not long before the outbreak of the Terror; it was then known as the "Grand Hospice de l'Humanité." Finally, in 1877, a new Hôtel-Dieu arose on the other side of the cathedral, and the original buildings were pulled down; the work was completed only some eighteen months ago. It is, perhaps, hardly necessary to say that the modern hospital differs in every detail from the ancient "Maison-Dieu." At first the Hôtel-Dieu was not a hospital at all in the modern sense of the word, but simply a vast charitable institution where any poor or afflicted persons, beggars, pilgrims, old and disabled people, and orphans, as well as the sick, might find a home, and where even the ordinary traveller could reckon on a night's lodging. To only one form of suffering was the shelter of its wards denied; the doors of the Hôtel-Dieu were rigorously closed to the leper. It was not until the sixteenth century that the Hôtel-Dieu became definitely a hospital for the sick. In its earlier days the old hospital, in spite of the welcome it extended to every kind of human misery, offered but little in the way of comforts, or even of actual necessities. As late as the twelfth century it contained so few beds that in 1188 a law was passed which made it obligatory for every canon of Notre-Dame, either on his death or in the case of his resignation, to leave a bed (mattress, pillow, and sheets) to the hospital. In spite of this, however, in the fifteenth century the number of beds was only 303, rising to 500 in the sixteenth century, and to 1,219 at the end of the eighteenth. The lack of accommodation caused infinite discomfort and suffering during the frequent epidemics, famines, and civil wars, when the wards were filled with the sick and dying, and six, eight, ten, twelve, or even fourteen patients, suffering from various diseases, were crowded together in one enormous bed. The climax was reached in the seventeenth century, when Géneviève Bouquet, the prioress of the nursing nuns, conceived the brilliant idea of utilizing the tops of the huge four-posters by placing mattresses upon them, on which slept the most active of her patients, who had to get in and out of bed by means of ladders! The medical treatment at the Hôtel-Dieu was at first almost as primitive as the accommodation, the hospital staff being composed of canons of Notre-Dame, and the nuns who for centuries took the place of the modern *garde malade*. All through the Middle Ages the patients were received and examined at the door by the portress; and it does not appear that any proper preliminary medical examination was customary until as late as the eighteenth century, when incoming patients were overhauled by the visiting surgeon before being admitted into the wards. After admission, the patient, according to the rules of the hospital, had to go to confession; after which he was undressed and put to bed, and his clothes were sent to what was suggestively called the *pouillerie*, where they were cleaned and kept until his discharge. The nucleus of a surgical staff was formed in 1221, when a surgeon called Hubert, "for charity and the good of his soul," undertook to visit the sick in the Hôtel-Dieu, and Vincent de Bois, about the same time, offered, together with a large sum of money, his services gratuitously to the hospital. A hundred years later, in 1328, the King appointed two surgeons (who were paid from the public treasury) to attend the Hôtel-Dieu, together with a physician and a midwife, known as *la ventrière des accouchées*. This state of things lasted until the sixteenth century, when the hospital authorities appointed a physician (who only visited the wards once or twice a week) and a master surgeon, who had several assistants and a crowd of apprentices. Later, the number of physicians was increased, and in the time of Louis XIV as many as eleven, including the King's own doctor, Fagon, attended the hospital patients. As for students—*philiatres* as they were called—it has been asserted more than once that they were not admitted inside the Hôtel-Dieu until the end of the seventeenth century. Professor Gilbert, however, is of opinion that they were admitted from the time of the foundation of the School of Medicine in the thirteenth century. By virtue of an edict passed in 1707, students were obliged to remain a couple of years at the Hôtel-Dieu, and, further, they were forbidden to remain under the tuition of the same man for longer than five years at a stretch. The Revolution swept away this ancient system, and in 1802 the service and administration of the Paris hospitals were entirely reorganized. Twenty-seven years later this system, in its turn, yielded to another, which is still i force at the Hôtel-Dieu at the present day.

MEDICAL TREATMENT OF SCHOOL CHILDREN AT NORWICH.

AT a meeting of the Norwich Education Committee on January 9th a report was presented from the School Attendance and Physical Care Subcommittee recommending that the committee of the Norfolk and Norwich Eye Infirmary be informed that the Education Committee, while willing, subject to the approval of the Board of Education, to renew their offer to subscribe to the Infirmary, was unable to recommend the education authority to accede to the suggestion that they should make arrangements for the testing of the eyesight of school children by ophthalmic surgeons at the cost of the authority, and that in the event of the committee of the infirmary determining not to treat children attending public elementary schools, the matter be referred to the Board of Education for its advice as to the action to be taken in

regard thereto; and that the Education Committee add that they have heard with great surprise that in one case a recommendation obtained by the school children's own subscriptions had been refused by the medical staff of the infirmary, contrary to the public expectation that recommendations properly obtained and carefully allotted to suitable cases would be acted upon. Miss Hinds Howell, in moving the adoption of the recommendation, said the School Attendance Committee had received two deputations, one from the managers and the other from the medical staff of the Eye Infirmary. Miss Howell said that the managers appeared to think that the staff was over-rushed, while the staff objected to treat elementary school children sent to the hospital by the Education Committee. She asserted that the Education Committee sent no children to the hospital—the children went on their own initiative and took recommendations, and yet were refused treatment. Mr. A. W. F. Bagge, who seconded the motion, said that the least said at present the better. He hoped that the doctors would see fit to change their line of action. From the subsequent discussion it would appear that money has been collected in the schools for the hospitals, and the chairman expressed the opinion that to raise a subscription to get a recommendation for one of themselves was one of the best forms of charity children could be induced to undertake, for it encouraged self-help. He added that the deputations had assured the committee that the doctors did not raise the question of the ability of the children to pay. One speaker, Mr. Crotch, took up the untenable position that hospitals were not charities because from most households in Norwich and the district contributions were received for the hospitals, while the city contributed to their funds by charging the hospitals only one-third of the rates. There seems to be a good deal of misapprehension as to the attitude of the medical profession with regard to the treatment of elementary school children found defective on medical inspection. It is true that while the Act lays upon education authorities the duty of providing for the medical inspection of children the power to make arrangements for attending to the health and physical condition of the children educated in public elementary schools is only permissive; many education authorities, however, have already recognized that there is an obligation upon them, in the interests of the well-being of the community, to see that the object with which medical inspection has been established is not rendered nugatory by failure to make adequate provision for the treatment of certain classes of defects at any rate, especially eye disorders, including refraction, certain infectious skin diseases, and dental disorders. It seems clear that the Norwich Education Committee has not yet faced the matter and thought out a scheme. Whether the school child was, technically, sent by the authority or not, it appears clear that the authority has not made any arrangement for treatment, and has tacitly approved the reference of the children to hospitals by permitting the collection referred to to be made. The matter, as our readers are well aware, has engaged the very careful consideration of the British Medical Association, and in 1909 it was decided that the Association should oppose the reference of school children found upon medical inspection to be defective to public medical charity for treatment, whether or not accompanied by payment or subsidies. The Association is also opposed to any scheme which rests on the reference of children to the Poor Law pending such reforms as may result from the consideration of the reports of the Royal Commission on the Poor Law. While not objecting to treatment of such children by provident dispensaries or other contract practice organizations under suitable conditions, provided that the remuneration of the practitioner is adequate for the work done, the Association considers that the most satisfactory provision for the treatment of such school children is by placing them under the care of private practitioners.

THE FREE DISTRIBUTION OF DIPHTHERIA ANTITOXIN.

On August 15th, 1909, the Local Government Board made orders sanctioning the provision by sanitary authorities of a temporary supply of diphtheria antitoxin for the poorer inhabitants of a district provided the arrangements for the keeping, distribution, and use of the antitoxin were made in accordance with the advice of the medical officer of health. The Metropolitan Borough Council of Islington has decided, on the recommendation of the M.O.H., Dr. A. E. Harris, to give effect to the order. In a recent report on the subject, Dr. Harris gives the result of the use of antitoxin in diphtheria in various places, and, quoting from figures published by the Metropolitan Asylums Board, points out that there is an increasing mortality with each day's delay in the administration of antitoxin, the case-mortality being 3 per cent. when it is administered on the first day of the disease, and 14·8 per cent. when on the fifth day and upwards. He suggests that a supply of antitoxin should be kept at the Islington Town Hall, where practitioners can obtain it during the day, and at the Great Northern Hospital, where it can be obtained at night or during the day by those who reside near the hospital. The cost he estimates at about £30 a year, and he anticipates that in course of time the case-mortality, which is now about 10 per cent., will be reduced to 5 per cent.

MEASLES AND MOTHERCRAFT.

In a special report upon the occurrence of measles in certain schools in St. Pancras during the latter part of 1909, the medical officer of health of the St. Pancras Metropolitan Borough, Dr. J. F. J. Sykes, has taken the opportunity of discussing the whole question of school attendance as it is affected by outbreaks of measles. After pointing out that the mortality of the disease amongst children over 8 years of age is not serious, but that it is serious among those under 5 years, he expresses the opinion that admittance to school of children under 5 years conduces to the spread of the disease among just those in whom it is specially desirable to postpone exposure and attack. He considers that nothing short of the permanent exclusion from school of children under 5 years of age at least will help to reduce the mortality from the disease, and if the exclusion were extended to 6 or even 7 years, it would be still more effectual. He suggests that scholastic education for infants under 5 is undesirable, and that the physique of the young child should be the first consideration. The education of the mother being more important than the education of the child, she should be enlisted in the education of infancy instead of being divorced from it. He advocates the formation of institutions for the teaching of mothercraft, and considers that if the moneys and efforts now spent upon trying to educate scholastically children under 5 years of age, and the moneys contributed to the maintenance of milk dépôts, day nurseries, nursery schools, and similar philanthropic efforts, were all to converge into one channel of schools of mothercraft, dealing comprehensively with mothers and infants up to compulsory school age, the effect of such a scheme could not fail to produce the most beneficial results.

SUBURB PLANNING.

A COMPANY called the Ruislip Manor, Limited, has been formed to develop an estate belonging to King's College, Cambridge, close to Northwood, Middlesex. The company undertakes not to divide more than 5 per cent. among its shareholders, and to devote any surplus profit to the benefit of local residents. It is working under the Town Planning Act in co-operation with the Ruislip-Northwood Rural District Council. King's College has entered into an undertaking for the granting of options over its land for a period of twenty-one years. The company intends to develop one or two sections at a time, and as soon as these have become productive to devote its energies to another section, and so on. The two sections to be dealt with first are near Northwood Station and Ruislip Station respectively. Architects have been invited to submit plans for the laying out of the estate, and these are now being exhibited at the Alpine Club in Savile Row. The assessors, Sir Aston Webb and Mr. Raymond Unwin, have placed first in order of merit a plan submitted by Messrs. J. and A. Soutar, in which due consideration is given to the proper linking up of all parts of the estate with the various main roads and other approaches to neighbouring towns and villages, as well as the metropolis. The intention of the company is that the estate should be developed with proper regard to open spaces and to affording facilities for outdoor recreation. In making the award the assessors have had this, as well as the convenience of access, prominently in mind. It is from one point of view sad to think of another piece of the rural portion of the home counties being turned into a suburb, and one is inclined to hope that London may before long be able to yield to New York the boast of being the largest city in the world, but if, responding to modern requirements and the greater desire among London workers of certain classes to live away from the centre of London, new suburbs must come into existence, it is highly satisfactory to know that the extension is to be made on a well-considered plan. A discussion on town planning in practice is to take place this (Saturday) afternoon at the Alpine Club, at 3.30 p.m., when the chairman of the Town Planning Committee and the clerk to the Ruislip-Northwood Urban District Council will give an account of the procedure followed by that council in the preparation of a town plan for the area.

HEREDITY AND INSANITY.

DR. OSWALD BUMKE, of Freiburg, well known as a writer on psychiatry, has in a resent essay[1] discussed some misconceptions with regard to insanity, and especially draws attention to certain erroneous diagnoses often met with as to particular clinical categories. With much that Dr. Bumke has to say about differential diagnosis we are not here concerned, for a great part of his discussion turns upon the clinical teaching of his country; and the same applies to a final chapter upon medical evidence as to the mental status of accused persons in law courts. On the other hand, considerable interest attaches to some of the more general questions treated, such as the causation of insanity and the often hypothesised "deterioration of the race." That an insane, or still more comprehensively, a neuropathic, heredity is of all others the most potent etiological factor in insanity, is widely accepted, both in medical and lay circles. On every hand evidences abound of the truth of this estimate. The reports of the Lunacy Commissioners and the annual reports of asylum superintendents in our own country, textbooks of mental disorders and other writings on this subject, discussions and contributions at medical meetings, all show this prevailing trend of opinion. Dr. Bumke says that not long ago authorities in Germany inclined to the view that at least three-fourths, and according to many statistics as much as 90 per cent., of all insane were "hereditarily burdened." Although in our country we have never heard of candidates for official appointments being debarred office because of their neuropathic heredity—as Dr. Bumke says has happened in Germany—it is certain that here, as there, great weight is attached in courts of law by counsel to the fact of insanity in the forbears of any accused person. The legal evidence of many medical men who lay stress upon the family antecedents and personal and bodily "signs of degeneracy" instead of confining themselves to the analysis of the individual mental personality Dr. Bumke stigmatizes as a grave logical error, by its confusion of fact and hypothesis. It is interesting to note that Dr. Bumke always speaks of the heredity doctrine of insanity in the past tense, and says that "this great structure [the heredity doctrine] has been removed bit by bit during the last few years," whilst the fragments that remain are being gradually used to lay the foundation of newer and more exact teaching. In so speaking, Dr. Bumke appears as one conscious that what he says as to the defunct condition of the doctrine is generally conceded, a view to which the writings of authorities like Tanzi, Lugaro, and others lend colour. Whilst admitting the inheritance of insanity—a fact surely beyond disproof—it seems reasonable with Dr. Bumke, to maintain that on the general question of the actual importance of heredity in insanity mere statistics of the occurrence of insanity in the forbears of insane people have no value unless compared with the results of parallel investigations into the insane ancestors of sane people (Dr. Bumke quotes one inquiry as yielding 66 per cent.); and also that with regard to any individual said to be hereditarily burdened the amount and distribution of the burthen, and also the nature and causes—possibly exogenic—of the insanities in the individual's forbears, require to be taken into account. The hypothesis of racial degeneration, which he maintains overlooks the fact of racial regeneration, Dr. Bumke dismisses in a few lines as a purely theoretic speculation, and in the "stigmata of degeneration," now generally regarded as quite compatible with complete mental integrity, he sees, even with regard to severe developmental anomalies, only the need for stringent search for departures from a normal mental development, and nothing more.

[1] *Landläufige Irrtümer in der Beurteilung von Geisteskranken.* By Dr. Oswald Bumke. Weisbaden: J. F. Bergmann. 1908. (Sup. roy. 8vo, pp. 80. 2s. 3d.)

THE draft ordinance giving effect to the new arrangement for medical chairs in the University of Glasgow was approved by the general council of the University on January 11th. The ordinance provides for the foundation by the Muirhead trustees of two new chairs of pathology and obstetrics and the augmentation of the emoluments of the existing chairs of clinical medicine and clinical surgery.

THE eighteenth annual report, that for 1909, of the Medical Officer of Health for the Administrative County of London, was issued on January 11th. It appears that the mean annual birth-rate shows a slight further decline from 25.21 to 24.18, as compared with 25.58 for England and Wales. The mean annual death-rate increased from 13.82 to 14.03, which compares with 14.49 for England and Wales. We hope to refer to the report more at length in a future issue.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

HOSPITAL ATTENDANCE.

THE following resolution has been passed by the Royal Colleges of Physicians and Surgeons in Ireland:

> That in future the production of a certificate of hospital attendance shall not be obligatory on students presenting themselves for the Second Professional Examination.

It is expected that the effect of this resolution will be that no students of the Royal Colleges will attend hospital during their second year of medical studies. The resolution was passed in order to bring the curriculum of the conjoint scheme more into line with that of the National University of Ireland and that of the University of Belfast, but many members of the profession regard the step as ill-advised, and likely to tend towards placing the hospital teaching in a position of relatively minor importance as compared with the preliminary subjects.

SANITARY CONDITION OF TRIM.

In consequence of an outbreak of scarlatina in the urban district of Trim, the Local Government Board recently directed Dr. McCormack, one of its medical inspectors, to visit the town and to report on its condition. His report, which was read at the last meeting of the urban district council, states that the general sanitary condition of the town is bad, and that in particular the back yards are without drainage, are unpaved, and badly kept. Its reading evoked many humorous remarks from the sapient chairman of the council, who thought that the people of Trim knew more about the scavenging and cleaning of the streets than any fellows sent down by the Local Government Board. Steps, however, will probably shortly be taken to remedy the present unsatisfactory condition of things.

KILLINEY HOUSING SCHEME.

Some months ago a memorial signed by a large number of residents in Killiney was addressed to the Killiney Urban Council, calling attention to the insanitary state of many of the houses in Killiney village.[1] Following upon this protest the council drew up a scheme for acquiring the insanitary dwellings and their replacement by properly-built workmen's cottages. A Local Government Board inquiry was held, and permission to carry out the scheme was accorded last week. Prior to the ratepayers' memorial the council had been most dilatory in attending to this most important and pressing evil, and the present commendable action is a striking instance of the influence which a determined body of residents can bring to bear in remedying evils injurious to public health.

Scotland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

SMALL POX DANGERS IN SCOTLAND.

REFERENCE was made in these columns some weeks ago to the dangers which may affect the health of the community owing to the fact that large use has been made of the "conscientious objectors" clause in the Vaccination (Scotland) Act, 1907. The whole circumstances of the situation have been occupying the attention of the Town Council of Edinburgh, through one of its committees, for some weeks. A subcommitee of the Public Health Committee has been in communication with representatives of the Edinburgh Practitioners' Association, who are moving in the direction of getting the latitude allowed under the 1907 Act greatly restricted. A call was made at the recent meeting of the Town Council for definite figures and statistics, and it appears that in Scotland in the three years up to 1908—the latest year for which figures are available—the number of those who have taken advantage of the exemption provisions are as follows:

1906, number of exemptions	...	...	253
1907, "	"	...	... 7,258
1908, "	"	...	... 15,846

This gives a total of 23,357 persons who have never been vaccinated, and who, it is urged, would be a serious menace to the general community, and entail a large amount of expense to the public, in the event of a small-pox epidemic taking place in Scotland. After considering the question fully, the subcommittee resolved to adhere to the recommendations previously made by the Public Health Committee, and to point out that in consequence of the facilities given under the Act there was growing up a rapidly increasing number of unprotected persons who would be a source of danger in the case of an outbreak of small-pox. It proposes, accordingly, that Parliament should be memorialized to amend the 1907 Act with the view of reducing materially the numbers of those persons who at present take advantage of the exemption facilities. It has been stated by some of the magistrates that persons who come before them for the purpose of securing exemption have in many cases the vaguest ideas as to the purpose and efficacy of vaccination.

DR. BALFOUR GRAHAM OF LEVEN.

There was a pleasant gathering in Leven on December 27th, 1910, when Dr. Balfour Graham was entertained at dinner at the Caledonian Hotel by his professional colleagues. Dr. Graham, who is an ex-president of the Fifeshire Medical Association, has recently given up practice to take up work as medical officer to the Scottish Miners' (North of Forth) Insurance Society, and the dinner in his honour was intended as a mark of the esteem in which he is held by his colleagues. Practically all those in the neighbourhood of Leven were present, the few absentees sending letters expressive of their regret at inability to attend. Dr. Graham, who until recently was medical officer of health for the burgh of Leven and medical officer to the Scottish Education Department and the Admiralty, is an active member of the British Medical Association, and at present honorary secretary of the Fife Branch, which, it may be hoped, will continue to have the advantage of his services. He holds a commission as Lieutenant-Colonel in the Territorial Division of the Royal Army Medical Corps, and is J.P. for Fifeshire.

INSTALLATION OF LORD RECTOR OF GLASGOW UNIVERSITY.

The installation of Lord Curzon as Lord Rector of Glasgow University will take place on Wednesday, January 25th, in St. Andrew's Hall, Glasgow, at 11 a.m. A large number of guests will be entertained to luncheon in the university, at the conclusion of the ceremony, at 1.30 p.m. On the evening of January 24th the undergraduates will welcome the Lord Rector with a torchlight procession on his arrival in Glasgow.

TUBERCULOSIS EXPERIMENT IN ABERDEEN.

The Town Council of Aberdeen had before it, at a meeting on January 4th, the report by Dr. Matthew Hay, M.O.H., with reference to the admission into the City Hospital of cases of pulmonary tuberculosis. Dr. Hay suggested that one of the reconstructed and extended wards should be utilized for the treatment of cases of the nature referred to—the ward being capable of accommodating thirty-six adult patients—in addition to which there would be accommodation for the treatment of a few non-surgical cases of tuberculosis in children. The Public Health Committee, in reporting to the council, approved generally of Dr. Hay's report and recommended:

> (1) That the council should undertake the treatment of tuberculous cases in the City Hospital to the extent indicated, and that the requisite authority should be given to the medical officer of health, it being understood that in the meantime the

[1] BRITISH MEDICAL JOURNAL, 1910, vol. i, p. 536.

scheme is to be of an experimental character; (2) that a system of voluntary notification of cases of tuberculosis by the medical attendants should be arranged for on such conditions as the committee may afterwards determine; and that (3) an open wooden shed, as well as a small open shelter, should be erected for the use of the patients.

GLASGOW PARISH COUNCIL AND PHTHISIS.

A letter has been received by the Glasgow Parish Council from the Local Government Board, enclosing an interim report from Dr. Dittmar, medical inspector, as to the treatment of cases of phthisis at Barnhill Poorhouse. This report states that 178 cases are in Barnhill, an institution not intended and not suitable for consumptive cases. The cases requiring hospital treatment are in bed in the ordinary wards and attended by the ordinary nursing staff. Dr. Dittmar recommends that cases in need of hospital treatment should receive it at Stobhill, where special provision is made for phthisis, and that all other cases should have special dormitory provision. This would not necessitate any rebuilding but merely a rearrangement of existing accommodation.

The Local Government Board expressed the opinion that steps should be taken to re-allocate the dormitories on the lines suggested by Dr. Dittmar and to have the hospital cases transferred to Stobhill. The whole question will be considered by a special committee of the Parish Council appointed for the purpose.

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

MANCHESTER AND DISTRICT.

THE MANCHESTER CORPORATION BILL.

A PUBLIC meeting was held last week in the Manchester Town Hall to consider an omnibus bill by which the City Council seeks powers among other things for carrying out an extensive system of drainage for the city. It is expected that the scheme will cost at least £1,000,000, but the work will be spread over a long period, and the meeting was informed that the Council would get the money as it was required. If the whole amount had to be borrowed at once it would involve a rate of 2½d., but the expenditure would be spread over ten years, so that it would mean considerably less. An elaborate report had been presented by the City Surveyor, and it had the approval of Sir Alexander Binnie. The scheme looks fifty years ahead, and taking into consideration the probability of further enlargements of the city boundaries, the surveyor has provided for a population of 1,500,000.

Another important provision of the bill is to give powers for the prevention of measles and whooping-cough. The Chairman of the Sanitary Committee said that these diseases caused more deaths than anything else except consumption and diarrhoea, and under the bill the Corporation would have power to prevent children from houses where cases occurred from attending school and wandering in the streets.

Another clause dealing with the widening of some streets affects the trustees of the Royal Infirmary. When the infirmary was removed from Piccadilly the trustees obtained permission to retain for a time some of the old buildings for use as an out-patient department. The trustees have found that it is necessary to have an accident ward in the centre of the city, such as that on the old infirmary site, and have been in negotiation with the trustees of the Roby Chapel for the acquisition of that building, with a view to erecting a ward on that site. There is an old graveyard in connexion with the chapel, and the Corporation sought authority for the removal of the human remains, and for an agreement with the infirmary by which the street would be widened.

There was no opposition to any of the proposals, and the bill was approved by the meeting.

MANCHESTER AND SALFORD HOSPITAL SUNDAY FUND.

At the annual meeting of the supporters of the Manchester and Salford Hospital Sunday Fund it was reported that the total amount received during the year 1910 was £4,398, an increase of about £790 over 1909. The sum distributed was £4,100, compared with £3,400 in the previous year. The amount collected was the largest since 1891. The committee has had under consideration the question of modifying the basis of apportionment of the fund and the constitution of the committee, and it was proposed to alter the rules to the effect (1) that the basis of distribution be retained as at present, but subject to the condition that no institution shall in future receive more than a quarter of the total amount distributed, and (2) that the committee be authorized to co-opt not more than fifteen members, men or women, in addition to those representing the various religious denominations. In moving the adoption of the report, the Lord Mayor of Manchester said that unless the hospitals were better supported it would be found impossible to continue them in the same way as at present, and if they were thrown on the rates it would mean an addition of 10d. in the pound to the Manchester rates. The meeting agreed to the alteration of the rules as suggested by the committee.

INQUESTS IN MANCHESTER DURING 1910.

The annual return of the number of inquests held in Manchester during the past year is now completed, and shows that the total number of deaths reported to the Coroner, Mr. E. Gibson, was 1,308, which is 9 less than in the previous year. Out of this number it was not found necessary to hold inquests in 461 cases. Thus the inquests numbered 847, which is 72 fewer than in the previous year. Accident cases numbered 407, and deaths from "natural causes" 280. The suicides were 52, against 69 in 1909, there being 23 cases of *felo de se*, and 29 cases of suicide while insane. There were 37 deaths from excessive drinking, 4 due to disease aggravated by neglect, and 3 to want and exposure. There were no murders during the year, but verdicts of manslaughter were returned in 3 cases. Open verdicts were given in 46 cases, 13 of these being of children found dead in bed from suffocation, and 13 of people found drowned. In all there were 89 cases of children found dead in bed. In 18 deaths from injuries there was no evidence as to how the injuries were caused. The number of burning cases was 59, which is 18 fewer than in 1909, and the deaths of children under the age of 10 numbered 293. The coroner remarks that this is a decrease of 40, and he hoped that the Children Act was doing some good, though it might be a matter of opinion. There has certainly been an improvement, and the decrease of deaths of young children ought to encourage those who have to administer the Act to do so more strictly, to see if a still greater reduction cannot be brought about.

THE CARE OF DEFECTIVE CHILDREN AT OLDHAM.

The Oldham Town Council has passed a resolution to the effect that the time has arrived when the Elementary Education (Defective and Epileptic Children) Act, 1899, should be made obligatory, and that powers should be granted to ensure that children on leaving the special schools at the age of 16 should receive protection from a public authority. The Act is permissive, but the experience since its adoption in Oldham has convinced the council that the Act ought to be made obligatory throughout the country. It had been found that a good deal could be done to make the lives of mental defectives agreeable so long as they were under control, but if they were to be left at large after the age of 16 they would always be a danger to the community, and liable to be led into criminal habits. The only remedy was to confine them in separate communities, where they would be under the care of public authorities. The council asked that the Legislature should empower local authorities to provide the money necessary for the purpose.

WALES.

CARDIFF'S MEMORIAL TO THE LATE KING.

IT is proposed to commemorate the reign of King Edward VII by liquidating the debt on the Cardiff Infirmary, thereby making an addition to its income of at least £800 a year, and augmenting the capital of that institution, so that the new wing, with its eighty-two additional beds, can be opened for the reception of patients immediately the building is completed. Colonel Bruce Vaughan, a true friend of the infirmary, in an appeal he has issued, states that what the board of management has most at heart is to feel authorized to undertake the treatment at once of the 750 sick poor who are awaiting treatment because there is no room for them, and by so doing to set up in the chief town of the Principality a memorial to King Edward VII which he would have been the first to appreciate. The appeal is addressed to the inhabitants of the city and the county alike, because they both in equal measure profit by the work of the infirmary. The proposal to rename the infirmary "King Edward VII Hospital," in memory of his late Majesty, will, it is believed, appeal to the loyalty of the whole of South Wales. The present debt of the infirmary is £21,000. Since its foundation the infirmary has treated within its walls no fewer than 679,095 patients, at a cost for maintenance alone of £294,486 in voluntary contributions. In another respect, it is added, a great public institution like the Cardiff Infirmary is a commercial asset to the city at large. It is to-day spending a sum of not less than £15,000 a year within the city, and when the new wing is opened it will spend over £20,000 annually. Its payments to the city treasurer, in rates for water and electric light, amount to £570, apart from the cost incurred by the institution for the treatment of the Corporation employees, amounting, on an average, to over £150 a year. To-day the Cardiff Infirmary stands unchallenged as the first and greatest charitable institution in Wales. It has in the past rendered incalculable services to the community; it will in the future contribute even more effectively to the common good. It has, therefore, an unassailable claim on the first and most generous support of the neighbourhood. About £10,000 has been subscribed in answer to the appeal, the first sums received being from the Marquess of Bute, £5,250; Lewis Merthyr Company, £1,050; Lord Aberdare, £105; Major-General Lee, £100; Lady Price Fothergill, £100; National Provincial Bank of England, £100; Sidney H. Byass, Bridgend (annual subscription), £50; Mrs. Jenner Wenvoe, £50; Colonel Bruce Vaughan, £25; W. and L. Proger, £25; Mrs. R. H. Jones, £10; etc.

TUBERCULOSIS EXHIBITION.

Newport (Mon.) gave a good start to the Tuberculosis Exhibition which was opened for ten days at the Drill Hall, Stow Hill, on Wednesday, January 4th. The hall was crowded during the afternoon. The various exhibits consisted of charts and maps contrasting the mortality due to consumption and war respectively. Models of sanitary cowsheds, travelling vans, revolving shelters, sanatoriums, labourers' cottages with surroundings where the eye at once discerned the picturesque and the objectionable. Ireland has a section of its own, but Scotland and Wales are unrepresented. The Mayor of Newport, who presided, said that they were that day introducing into Wales and the West of England a new plan of campaign which would hasten the day when the "white man's scourge" would fail to claim the victims that were falling around them in every direction. At Newport, he was glad to say, deaths from consumption of the lungs had been steadily decreasing from 3.7 per 1,000 in 1871 to 1.0 per 1,000 last year. The housing conditions of the town had been improved. They had compelled the landlords to improve over 1,000 houses, and 48 had been closed. Not only the landlords had serious responsibilities in the matter, but the tenants also, as many of the latter converted decent dwellings into insanitary ones. He dwelt at length with the sanatoriums which had been established by the Newport Board of Guardians and the Corporation, and added that, as tuberculosis was not a local disease, he would be glad to see other authorities adopting similar measures. At any rate, Newport would do its part. The school children would be brought to this exhibition, and would write essays on what they saw and learnt. Newport would continue its school for young mothers. Mr. J. Macaulay, General Manager of the Alexander Docks and Railways Co., paid a warm tribute to the efforts of Dr. Howard Jones, M.O.H., in combating the disease. He trusted that the information intended for the adult population would be supplemented by a suitable addition to the curriculum of the schools for the training of the youthful minds. In the evening Dr. D. J. Williamson, medical officer, Paddington Dispensary for Consumptives, gave a lecture illustrated with lantern slides on the Tuberculosis Dispensary System. Dr. J. Lloyd Davies, J.P., presided.

SWANSEA HOSPITAL.

At a special meeting of the board of management of the Swansea Hospital, held on January 4th, the question of increasing the medical staff was considered, a committee recommending: "(1) That a fourth out-patient medical officer be appointed who shall be eligible for appointment as an assistant to the indoor staff; (2) that the anaesthetists shall rank as assistant out-patient officers; (3) that an assistant ophthalmic surgeon be appointed." Dr. D. R. Edwards having signified his intention to resign the office of pathologist in order to devote himself exclusively to the electro-therapeutic department, the committee recommended that the board should approach the Corporation with a view to securing its co-operation in the establishment of a pathological and bacteriological department, and that in association with this proposed department the vaccine-therapy work of the hospital be placed in the hands of an honorary medical officer. The committee added that it still had under consideration a proposal to extend the scope of the dental department, and the question of the alleged abuse of the hospital. The recommendation was adopted. Dr. Quick was appointed assistant ophthalmic surgeon.

India.

[FROM OUR SPECIAL CORRESPONDENT.]

ANTIMALARIAL WORK.

THE Central Malarial Committee, appointed as a result of the Malarial Conference of last year, met recently in Simla, and was attended by delegates from different provinces. Practical classes on the study of malaria are also being again held by Captain Christophers, I.M.S., while malarial experts have now been appointed in nearly all the provinces to carry out practical antimalarial measures in connexion with the sanitary department. In addition provincial malarial committees are being formed, that in Bengal being the sanitary board of the province with the addition of further medical officers with a special knowledge of the problem. The Central Committee also issues from time to time a bulletin giving recent information on advances in the subject, which will enable the different workers to keep well abreast of the scientific knowledge of malaria. Altogether there is good promise of practical results being obtained in India in the campaign against this protean foe, while the lessons of previous failures will not be lost, but enable similar mistakes to be avoided in the future. The report of the Mian Mir Commission well shows the immense difficulty of adequate antimalarial measures in certain parts of India, and the necessity of a thorough survey of all the aspects of the problem by an expert malariologist in the particular place in which it is proposed to make a serious effort to reduce the prevalence of malaria, and the provision of sufficient funds to carry out the recommendations completely.

A HOSPITAL FUND FOR BENGAL AS A MEMORIAL TO KING EDWARD.

As pointed out in a previous letter, unfortunate differences of opinion greatly delayed the adoption of a definite plan for a memorial to King Edward in Bengal. After several months' discussion, during which very few subscriptions have been received, it has just been decided to drop the scheme for providing hostels for native students, which was so warmly advocated by the Lieutenant-Governor, and to adopt the suggestion of the Executive Committee to utilize the subscriptions of about five lakhs for a statue, and to form a King Edward Memorial Fund, to be applied to the following objects: (1) For the advancement of medical education; (2) hospitals; (3) sanatoriums; (4) medical research; and (5) other works of medical relief in Bengal. As the total annual income from the funds which have been collected will only amount to Rs. 15,000, or £1,000, to which the Government of Bengal will add about one-third, the absurdity of such an elaborate programme is clear. There is much regret in medical circles that the suggestion to build the greatly needed medical research laboratories in Calcutta has not been adopted, although strongly supported by the medical profession.

Correspondence.

THE BRADSHAW LECTURE AND CANCER.

SIR,—May I correct the dates and statements made in the JOURNAL of January 7th, 1911, by Dr. Charles Walker, on the basis of which he assigns a sequence to the work of my friends Borrel, Bridré, Clowes, Ehrlich, Gaylord, and Jensen, and also point out that the name of the French author he mentions is Morau and not "Moreau"?

1. *The transference of malignant new growths from one animal to another of the same species.* Reliable evidence of "the fact that some malignant new growths can be inoculated from animal to animal of the same species was given in the first instance by" Hanau in 1889 for the rat and not by Morau in 1893–94 for the mouse. As already stated,[1] many of Morau's tumours arose independently of the inoculations he made, which, however, does not detract from my estimation of his pioneer work on the transference of cancer in mice. It is quite erroneous to assert such a sequence as Morau "was closely followed by Borrel. Then came Leo Loeb (1901), and Jensen (1902), Bridré, and Ehrlich subsequently added considerably to our knowledge of this phenomenon"—that is, the manner and nature of the inoculation or transference of cancer from one individual to another. Independently of Loeb in 1901, Jensen's papers appeared in 1901–2–3 in Danish, and became generally accessible in March, 1903, in German. Bridré's first paper appeared in 1907; it did not deal with the nature of inoculation or transplantation, but with immunity. Ehrlich's first paper appeared in 1905; therein he made no reference implying that he was not satisfied that the nature of inoculation had been settled already. Statements and communications on the nature of the transference of cancer from one animal to another of the same species have appeared continuously from this laboratory from July, 1903, October, 1903, December, 1903, January, 1904, onwards, and that the subject is not yet exhausted is shown by forthcoming papers.

2. *The natural and induced resistance of mice to the growth of cancer.* The disappearance of malignant new growths was first shown by Jensen in 1903, and not by Gaylord, Clowes and Baeslack in 1905. The statement that "mice treated with the serum of mice that had spontaneously recovered from cancer were less susceptible to inoculation than mice that had not been so treated" lacks all trustworthy confirmation, even by those who were its authors. The action of the serum of animals immunized with cancer tissue was discussed by Jensen in 1903, and by us in 1904, 1905, 1906, etc. "That the resisting power against the incidence of cancer to a given animal may be greatly strengthened by the inoculation under its skin of various specific body tissues was" not "shown" in sequence "by Borrel in 1905, Ehrlich (1906) and Bashford (1906–7)." Borrel's first paper on this subject appeared in 1907, whereas, Jensen treated of the immunizing effect of tumour tissue in 1903. There is no discrepancy from 1904 on, in the statements made from this laboratory on the absence of immunizing effect with small doses of living cancerous and normal tissue, and the statements made on the production of immunity by larger doses of living tissue (cancerous and normal), and its non-production by dead tissue: the demonstration of immunization by living normal tissue was first published in July, 1906. Ehrlich's first reference to immunity by cancer tissue was made in 1906, the first reference to immunity by normal tissue from Ehrlich's laboratory was made by Schöne in December, 1906.

3. *The experimental production of sarcoma.* "The patient tracing of the evolution of a carcinoma into a mixed tumour first and then into a round-celled sarcoma in the second place was" not "first accomplished by Ehrlich in 1906–7," and the sarcoma was not round-celled, but spindle-celled. This startling discovery was accidentally made in Ehrlich's laboratory in 1905. "The patient tracing out of the evolution," stage by stage, was left to later workers, and the demonstration of the basis on which the interpretation of the phenomenon—as the experimental production of sarcoma—rests—namely, the degeneration of the stroma on transplantation and the supplying of a fresh stroma by the host—as a *specific* reaction to the cancer cells had been supplied earlier by workers in the laboratory of the Imperial Cancer Research Fund.—I am, etc.,

E. F. BASHFORD.

Imperial Cancer Research Fund, London, W.C., Jan. 9th.

[1] Morau and Jensen's Tumour, *Lancet*, vol. ii, 1906, pp. 1469 and 1544.

SIR,—I see that Mr. Kenneth Campbell "demurs to the statement that a cancer can evolve into a sarcoma." He also says: "No epithelial cell can change into a connective tissue cell."

The latter statement appears to be based upon the old superstition that when once development of the embryo has reached the stage when the three layers of cells are differentiated, the destiny of the progeny of these cells is irretrievably fixed; subsequent differentiation of the cells produced from the ectoderm being absolutely limited to the production of epiblastic tissues and similarly exact limitations also existing with regard to the mesoderm and endoderm. Zoologists have long ago abandoned this position, but I am afraid that in a few medical schools the teaching upon this point remains as it was.

Notwithstanding the enormous difficulty of separating without injury the cells produced by the earlier divisions of the ovum, it has been proved experimentally that the individual cells retain the power of producing all the tissues of the body,[1] up to the latest stage at which it has been found possible to separate them—that is, the sixteen blastomere stage from which sixteen complete embryos have been produced.

The most striking experiments which bear upon the retention of this general potentiality by even the most highly differentiated cells are those upon the regeneration of the crystalline lens in the eye of the salamander and *Triton*.[2] It must be remembered that the lens is normally produced from an invagination of the epiblastic cells. When the lens is removed a new lens is developed, but from mesoblastic and not epiblastic cells. The cells of the salamander and *Triton* are very large, so the changes can easily be followed with the greatest accuracy.

Of course, under normal conditions the subsequent differentiation of the progeny of the cells of the three embryonic layers is limited to certain types for each layer, but the general potentiality is retained in varying degrees by the cells of different tissues and different groups of animals, being retained, perhaps, to a less extent in

[1] H. Driesch, *Analytische Theorie der organischen Entwicklung*, Leipzig, 1894. T. H. Morgan, Experimental Studies on Teleost Eggs, *Anat. Anz.*, x, 19, 1895. R. Zoja, Sullo sviluppodei blastomeri isolati dalle uove di alcune Meduse, *Archiv für Entwicklungsmechanik*, i, 4, 1895. E. B. Wilson, On Cleavage and Mosaic Work, *Arch. f. Entwick.*, iii, 1, 1896. A. Herlitzka, Contribuzione allo studio della capacità evolutiva dei due primi blastomeri nell' uove di Tritone, *Arch. f. Entwick.*, ii, 3, 1895. H. E. Crampton, The Ovarian History of the Egg of Molgula, *Journal of Morphology*, xi, Supplement, 1899. And many others.

[2] Gustave Wolff, Die Regeneration de Urodelenlinse, *Archiv für Entwicklungsmechanic*, i, 3, 1895. E. Müller, Ueber die Regeneration de Augenlinse nach Extirpation derselben bei Triton, *Archiv für Mikroscopische Anatomie*, xlii, 1, 1896.

mammals than in any others. This general potentiality is obviously only demonstrable when normal conditions are upset—as they are in any pathological condition, as they are in malignant growths.

It may be quite true that an individual epithelial cell does not "change into a connective tissue cell." It does not appear to me that any one has suggested—in the JOURNAL, at any rate—that it does, but that the subsequent generations of cells that may be produced more or less in geometrical progression and under certain conditions from the division of a cell possessing the characters which have given it the name epithelial, may develop the characters of cells which are called connective tissue cells, has been demonstrated experimentally.—I am, etc.,

CHARLES WALKER.

Research Department, Glasgow Cancer Hospital, Jan. 9th.

SIR,—I have to acknowledge with thanks the courtesy which has prompted Dr. Charles Walker to correct the inadvertency into which I have fallen in substituting for the name of Ehrlich that of the Cancer Research Fund in reference to the case of evolution from a carcinoma into a sarcoma. Let me assure him of my regret for this unintentional lapse of memory. At the same time will he pardon me if I say *tu quoque*? But I feel that I must save the reputation of Hanau? He, and *not* Morau, was the pioneer of transplantation of malignant growths specifically from animal to animal; for we find that in the year, 1889 "he, *first*, directed the attention of scientists to this method of study by his successful transplantation of squamous-celled carcinoma of the vulva from rat to rat; and thereby indicated the direction in which further inquiry should be pursued and further success might be expected." Morau, therefore, must simply have made the experiments confirmatory of those of his predecessor of five years previously. But I think it would be dangerous to assume, as I fear Dr. Walker does, that because one observer has shown the way, all subsequent work in that direction by others is of diminished value. I hope, therefore, that Dr. Walker will not wish us to believe that the "confirmatory" work of the staff of the Cancer Research Fund is of lessened importance because it has followed that of Hanau, Morau, and others? Indeed, if we admit this general principle what is to become of research in future if those who labour at it are to be taunted with the reflection that their inquiries are only confirmatory?

In my first letter I gave a general outline of what has really been done by the staff of the Cancer Research Fund. But, not to labour any further this side question of priority—to me always an insignificant one where the aim of men is moved by the desire to discover truth rather than ostentatiously to pose as the discoverers—I will ask Dr. Walker—did not Borrel, Bridré, Gayloid, Clowes, Baeslack, and even Ehrlich himself, follow Hanau and Morau? And is it to be supposed for a moment that they were unacquainted with, and did not profit by, the work of their predecessors—nay, even performed the selfsame experiments by way of confirming it? Are we to belittle them and place the stamp of imitators upon them?

In at least three places of Mr. Campbell's reply to my letter of December 24th, 1910, on this subject may be discovered, I fear, some misapprehension or misconception of the meaning I wished to convey therein. I have no right to complain of this, and do not; on the contrary, I will take it that he thinks my words were to him confused, and my meaning not, therefore, explicit. With your permission I will restate our respective positions, for this course might limit unnecessary multiplicity of correspondence. I will recall to Mr. Campbell's memory that on December 17th, 1910, he committed himself to the following proposition: "Without wishing to disparage the work done by the Cancer Commissioners, it is evident that the only advance made in our knowledge of the subject is that cancer can be inoculated from animal to animal of the same species; further than this the veil has not been lifted, and the mystery is still unsolved."

In the JOURNAL of December 24th, 1910, I strongly demurred to the position which Mr. Campbell had taken up because I thought he had spoken without adequate knowledge, or at any rate with inadvertency, on the subject; and I asked him several plain but straight questions bearing especially on this point, and more generally on the work done at the laboratories of the Cancer Research Fund. To none of these questions in his letter in the JOURNAL of January 7th do I find the semblance of a reply. Now, to those questions I *want* a reply, and will not consent to be drawn into the considerations of side-issues before the previous one has been satisfied, because that course could lead only to useless words, for which *you* have no space and *I* have no time. In adopting this course I claim that I am penalizing myself, for there are a few points, and particularly those on pathology and etiology, which I might perhaps place before Mr. Campbell's eyes in a different light.—I am, etc.,

London, W., Jan. 7th. FREDK. W. WRIGHT.

CANCER AND THE CREOLES OF SIERRA LEONE.

SIR,—I shall be glad if you will grant me space in the JOURNAL to make a few observations on the criticisms of my friend Dr. Randle in the BRITISH MEDICAL JOURNAL of October 15th, 1910, which he made on my paper on the spread of cancer amongst the descendants of liberated Africans or creoles of Sierra Leone, published in the JOURNAL which appeared on September 3rd, 1910. Dr. Randle, as he said, had just recovered from a serious illness when he wrote. Since that date he has returned to his home at Lagos, Southern Nigeria, where he will be surrounded with his books and notes, which I trust will assist him to publish his record on the spread of cancer amongst the Sierra Leoneans and aborigines in the Province of Lagos. My paper refers only to the Sierra Leone creoles resident in this colony and its hinterland, and not those who have emigrated and found a home between Senegambia and the Congo. My friend Dr. Randle, who is one of these, has made Lagos his home, and is better able to deal with that section than myself, although I have been privileged to treat cases of malignant diseases coming from various parts of the coast; these cases were not, however, included in my reckoning, which was a surprise to Dr. Randle.

2. In my statistics of the Colonial Hospital, Freetown, I did not include a single case of cancer among the aborigines. In a paper which formed an appendix of the Medical Report for 1900, entitled "Prevalence of Malignant Diseases amongst Natives," I wrote as follows: "The next question which naturally arises in consideration of this subject is, Amongst what section or classes of natives do these occur? To this a satisfactory answer based on the records can be given: That they occur amongst the creoles or descendants of liberated Africans—namely, the Akus, Eboes, Popos, etc.—who have adopted the European mode of living and consumed a large quantity of butchers' meat." In the whole register there is not a single case of a disease of malignant nature recorded against the liberated Africans themselves or the natives of the protectorate—namely, the Mendis, Sherbros, Timinees, Limbahs, Susus, Mendigoes, etc.—and this record deals with the years 1870 and 1879; yet my friend Dr. Randle informed us that during his apprenticeship, between the years 1874 and 1877, malignant diseases were far more common amongst the aborigines in Sierra Leone than the statistics quoted by me could lead him to believe. I do not know whether Dr. Randle, as an apprentice in the years he quoted, had charge of the register of interim cases admitted into hospital, for there is not a single entry, as I said before, of an aborigine's name being entered. I have been informed, however, by the medical clerk of those days that the register of intern patients was kept by the Assistant Colonial Surgeon, the late Dr. Robert Smith, and that Dr. (now Sir) Francis Lovell, Dean of the School of Tropical Medicine, who was the Colonial Surgeon of Sierra Leone, participated in the treatment of cases in the hospital, and it is impossible, I think, for them to have omitted from the register such serious diseases as cancer, etc., amongst the natives; therefore we cannot take into serious account Dr. Randle's experience of malignant diseases amongst the aborigines during the years of his apprenticeship—1874–1877.

3. To the figures already published I am able to add, for the year 1910, 8 cases of malignant disease, so that for the decade 1900–10 a total of 30 cases is recorded. This may be more, as the year has not yet closed. My figures are as follows: 4 carcinoma of breast, 1 carcinoma of the pylorus, 1 carcinoma of the uterus, 1 epithelioma of the scrotum 1 epithelioma of the toe. These cases have occurred

in the creoles or Sierra Leoneans. This increase is striking.

4. My friend Dr. Randle, to further prove the prevalence of malignant diseases amongst the aborigines of Southern Nigeria, named 2 cases he had seen amongst the Igebus of the Aku tribes and a case at Accra on the Gold Coast. This, to me, shows rarity; but allowing that the doctor had not his notes by him, if he could remember 2 or 3 cases, he could possibly remember a dozen.

5. Dr. Randle thinks that I should have submitted, when comparing the statistics of the Colonial Hospital, Sierra Leone and its hinterland, the statistics of the hospitals of the Gold Coast and its Protectorate, which would justify the conclusion I arrived at. Now, for his information, I quote the following remarks by Dr. Langley, P.M.O., in the Government Annual Medical Report of the Gold Coast, 1908:

Cancer.—Cases of malignant disease rarely come under the notice of the medical officers, although the occurrence of such is carefully watched for with a view of obtaining information for the Cancer Research Committee. No pathological specimens have been obtainable; 1 case, termination not known, and 1 death were reported during the year.

This must be taken as an indication of the rarity of malignant disease amongst the natives of the Gold Coast, for it is hard to believe that the forty-seven medical officers distributed in the principal towns or trade centres, some with hospitals, in the Gold Coast, and who are instructed to collect information and send specimens of cases of malignant disease to the Imperial Cancer Research Committee, could have found only 2 cases if more had occurred in the course of their practice last year. I think, therefore, that I was justified in arriving at the conclusion that I did.

6. But the rarity of malignant disease in the aborigines of Sierra Leone and its hinterland is not exceptional, for there are numerous records from various sources which show how rare cancer is amongst the negroes of Africa.

Dr. Hearsey's report from British Central Africa speaks of its utmost rarity; and if we look into *Wellcome's Review* on some of the recent advances in tropical medicine, 1908, under Cancer, there again we would see the observations of various members of the profession recording the rarity of the disease amongst natives or aborigines of the Soudan and other territories.

With reference to Dr. Randle's criticism of my remarks on the want of unity and combination among Sierra Leoneans, I can only say that every one acquainted with the history or condition of Sierra Leone knows that it is very difficult, if not impossible, to get the Sierra Leonean to combine for any specific object. Societies of various kinds are from time to time born, grow for a time, languish, and eventually die. The number of these abortive societies or organizations may be described as legion. And this holds good in every department of life—social, commercial, literary, and religious. Of course from this last I except the various church denominations, which are in a sense foreign in that the parent stock is foreign, the system is foreign, and the support or aidance is wholly or partially foreign.

But Dr. Randle asks whether combination and unity exist amongst the people in the Gold Coast, and, indeed, amongst the peoples in any other part of West Africa, and bids me inquire from those who have experience of such matters. It is to be regretted that under the condition in which Dr. Randle wrote he was unable to furnish the answer to his own query. When I referred to the Gold Coast I meant the Gold Coast proper, not the northern territories or Ashanti, and especially the coast towns which have had long intercourse with Europeans.

I have not had the advantage to travel amongst native races in West Africa as much as Dr. Randle, nor to live on the Gold Coast for any appreciable time, but, judging from what I have read and heard, I think I can safely say that the people of the Gold Coast have adhered, and do adhere, to their native customs and habits, and that combination and unity do exist among them at least considerably more so than in Sierra Leone Broadly speaking, combination and unity are generally found to exist in West Africa, where the people are of one language or speak different dialects of one language, and adhere to their native customs and habits.

I do, in common with Dr. Randle and every thoughtful African, deplore most deeply the evils of intemperance which he has alleged do exist to such a demoralizing extent on the Gold Coast.

It is most unfortunate that this imported drink habit should have taken so great a hold on the Accras, due, no doubt, as Dr. Randle states, to American barques, and latterly European steamers, exchanging rum and tobacco for the native products of gold and palm oil. It is but the old history of European commerce in West Africa, and which is being repeated in Southern Nigeria and other parts of the coast—namely, the exchange of that which vitiates, demoralizes, and kills the native for the economic products which yield material benefit to the European trader. In my article I expressed the apprehensions of the possibility of the social habits and customs of the people of the Gold Coast disappearing "before the mighty onslaught of European civilization." I quite agree with my friend that, if the liquor traffic and liquor consumption are as bad as he depicts them, the report of a commission of inquiry would be interesting reading; but it is for my friend who is so intimately acquainted with the whole subject to get others to join him in persuading Downing Street to send out such a commission of inquiry. Whether, in view of the result of the recent commission of inquiry in Southern Nigeria, the Colonial Office will regard such persuasion is to me very doubtful.

I must leave this portion of my friend's remarks, interesting as it is, and pass on to deal with that which concerns me, merely contenting myself with an expression of the hope, in which many Africans will share, that Dr. Randle may soon regain his health so as to deal not only with this liquor question on the Gold Coast, and what he describes as the fascinating study of the ethnographic distribution of the tribes of the Gold Coast, but also with the subject of my article, "The Spread of Cancer among the Sierra Leone Creoles."

The object in introducing the subject of a common language and native habits and customs and instituting a comparison between the people of Sierra Leone and that of the Gold Coast was simply to show how the non-adoption of certain civilized habits may be a preservative against the introduction of malignant diseases and how the possession of a common language may assist in the preservation of native habits and customs, and consequently in the resistance to such civilized habits and customs. Dr. Randle has not attempted, much less adduced, any fact or argument to disprove my contentions, and I have therefore, until he does so, nothing to reply to in this regard.

With reference to the charge of self-depreciation, I can only assure Dr. Randle that no one will more readily acquiesce than myself in his statement of the dominant position held by Sierra Leone creoles all along the coast—from north-west to south-east of Africa. No one knows more than I do their worth and capability. But it is this knowledge, coupled with race-pride and patriotism, that makes me so anxious to point out what I consider a grave danger, which may eventually tend to their extinction.

My article, therefore, indicating not only the presence but the increasing spread of such a dire disease as cancer is but a warning note. And I feel sure, however small the figures may be which I have been able to give, my friend Dr. Randle, patriot as he is, will join me in not only sounding that note but to increase it in volume and sound until it becomes a battle-cry that will compel and arrest such attention as will resolve itself into methodic and persistent action that will entirely stem the insidious current of the disease and eventually save our brethren and race.—I am, etc,

Freetown, Sierra Leone, Dec. 14th, 1910. WM. RENNER, M.D.

MEDICAL TREATMENT OF INOPERABLE CANCER.

SIR,—May I be permitted to ask your readers to send to my hospitals a sufficient number of cases of inoperable cancer, in order that the effects of medical treatment may be tested? I have for years believed that wrong food was an important factor in the etiology of cancer, but only recently have I seen cases that gave the impression that, by alteration of diet, we may sometimes cure. I might easily take up columns in arguing the *pros* and *cons* of the cases that have given me this impression, but my object is to put the matter to the test of further experience. In

order that this may be done, I want cases in which there is a probability of at least six months of life, as change of diet produces little visible effect on the body under three months; but I may say that even in cases where treatment comes too late to cure, it appears to mitigate very decidedly the pain and suffering of death from malignant disease.

Shortly, the treatment consists in putting the patient as quickly as possible under one form of uric-acid-free diet, and from that on to one of nuts and fruit chiefly, the only fluid besides fruit juice being distilled water.

I have been trying to get such cases for more than twelve months, but they are quite difficult to obtain, for cases of this kind are generally sent back to their friends, or to homes for the dying, as hopeless—hence this letter.

The names and addresses of males may be sent to the senior house physician at the Metropolitan Hospital, and those of females to the senior resident at the Royal Waterloo Hospital.

I will undertake to publish the result in all cases I am able to accept for treatment. I think that 30 to 40 cases so treated would answer the question whether cure of real cancer by such means is possible. Hitherto it has been assumed, when such cases recover, that the diagnosis has been wrong. I doubt whether this assumption is always correct.—I am, etc.,

London, W., January 5th. ALEXANDER HAIG.

ALCOHOLISM AND DEGENERACY.

SIR,—Professor Pearson has now dropped unanswered the first part of the point we have brought against him in each of our letters, namely, that he and Miss Elderton have never had (as they alleged) a group of "non-alcoholic" parents to compare with the alcoholic. He still, however, contests the second part of our point, namely, that his and Miss Elderton's paper is worthless as a study of the effects upon children of alcoholism in their parents, because it nowhere contains the figures showing for each child whether it was born before or after the parental alcoholism began.

He now says: "Of course it does contain such figures, and what Sir Victor (*sic*) is confessing, is only that he is constitutionally or by training incapable of interpreting them."

We must repeat that there are no such figures in existence, and if Professor Pearson wishes to be believed he must publish in the next issue of the JOURNAL:

1. The figures, together with the numbers of the pages of his and Miss Elderton's "Memoir" on which, as he alleges, they are printed.

2. The reference case numbers of the Edinburgh Report Schedules belonging to the parents and children to whom the figures individually refer.

II.

He next raises a new side-issue, and one which, we regret to observe, convicts him of a breach of scientific good faith. He produces a table which professes to give a comparison of the offspring of what are called by him "teetotal" parents separated from those of alcoholic parents of various degrees.

Yet in the "Memoir" by himself and Miss Elderton the following passage occurs (p. 5): "As will be seen from the tables—(that is, those in the appendix to the Memoir)—classes (1) teetotalers, and (3) (suspected to drink) *were too small to be kept separate*, and teetotalers had to be included with sober people, and suspected drinkers with drinkers." The italics are ours.

He throws away scientific caution and truth, and puts the same figures, previously admitted by him to be untrustworthy, before you solely to depreciate teetotalers.

The real fact is that, as we show in our detailed paper published to-day on page 72, he has no group of "teetotal parents" at his disposal, and never has had.—We are, etc.,

MARY D. STURGE,
VICTOR HORSLEY.

London, W., Jan. 9th.

SIR,—I think it would be only fair to those readers of the BRITISH MEDICAL JOURNAL who are interested in the correspondence upon "Alcoholism and Degeneracy" if Professor Karl Pearson were to give the actual figures upon which his percentages are based, together with the case numbers from the Edinburgh report of the families of teetotalers used by him in his calculation. How many families, for example, in which both parents were teetotal throughout life did he investigate? Unless one knows the numbers of families of each class upon which the percentages are based, one may be misled.—I am, etc.,

Birmingham, Jan. 9th. J. FURNEAUX JORDAN.

SIR,—Having refrained for some weeks from joining in a controversy where my name has frequently been mentioned, may I now be permitted a few lines in which to suggest that one of the disputants has formally and generously, if unconsciously, thrown up the sponge?

In your issue of January 7th Professor Karl Pearson explains the results of his First Study of the Influence of Parental Alcoholism upon the Physique and Ability of the Offspring in the following words: "The stronger and more virile parents took alcohol, and because of their physique, not because of their alcohol, had healthier children." Plainly, therefore, on his own showing, his report has no relevance to the subject with which it professes to deal, which is what I have been contending since my article in the *Eugenics Review* last April; for, in order to study statistically the subject posed, would not one have to compare comparable parents? or, better still, the offspring of the same parents before, during, and, if possible, after recovery from, alcoholism? The question with which the title of Professor Pearson's report professes to deal is the influence upon the children of these "stronger and more virile parents" of the parental alcoholism; and this question is supposed to be dealt with by a comparison between these children and those of weaker and less virile parents!

What the Edinburgh facts really were we shall know better when we have a fresh analysis of the schedule, which will be sufficiently interesting. At present it suffices to point out that Professor Pearson's reiterated belief is obviously equivalent to the admission that his paper has no bearing on its *soi-disant* subject.

All that matters little, except as history, now that Professor Pearson's subsequent study has led him—in line at last with what some eugenists have been demanding for years—to advocate the segregation of the inebriate on account of the probable mental defect of his offspring. Does Professor Pearson remember, I wonder, the following sentence from one of his *Times* letters in controversy with Professor Alfred Marshall?—

> I am too familiar with the manner in which actual *data* are met with the suggestion that other *data*, if they were collected, might show something else to believe it to have any value as an argument.

Does Professor Pearson still hold that it does not matter what data one studies, having given away the case for his first report, and having published its successor?

The association between alcoholism and mental defect, with which Professor Pearson has recently acquainted himself, has of course been known for a long time. I shall be (somewhat regretfully) grateful to any of your readers who can furnish me with an earlier reference than the following extract from a most remarkable passage, prophetic of modern eugenics, which I have just found by accident in a book entitled *Observations on the Criminal Responsibility of the Insane* (London, Churchill, 1856), by Caleb Williams, M.D.:

> Mental peculiarities, habits, and even vices, are transmitted from parents to offspring. Drunkenness is one of those vices which extensively prevails in some families, and which often descends from father to son; and with this legacy there is often linked a faulty constitution, an excitable nervous system, and a manifest predisposition to cerebral disease.

—I am, etc.,

CALEB WILLIAMS SALEBBY, M.D., F.R.S.E.

London, W., Jan. 10th.

CLEAN MILK.

SIR,—It is recognized on all sides that few matters are of greater importance in promoting the health of the nation than a pure milk supply. Yet, unfortunately, milk is peculiarly susceptible and liable to contamination, not only while it is in the hands of the producer and retailer, but also as soon as it reaches the consumer. For want of due care in handling, milk is frequently, as is well known, a potent factor in the dissemination of a number of serious diseases, and has great influence on infant mortality.

Since the inception of the National League for Physical Education and Improvement in 1905, the question of pure milk has occupied a prominent position in its programme, and a special committee of eminent experts has devoted much time to the problem. The League is now undertaking definite, practical steps to deal effectively with the matter. Pending more adequate legislation than at present exists, it is hoped that this action will arouse the nation at large to a sense of its responsibility in the matter. The intention, briefly stated, is to instil into the minds of all concerned in the production and consumption of milk a knowledge of the simple rules required to ensure its purity and cleanliness.

Full details of the scheme, and of the standard leaflets on which it is based, will gladly be sent on application to the Secretary of the League, at 4, Tavistock Square, W.C. —We are, etc.,

For the National League for Physical Education and Improvement,
(Signed),
W. B. RIPON, Chairman of the Executive Council.
F. MAURICE, Major-General, Honorary Vice-Chairman.
LAUDER BRUNTON, Vice-Chairman.
JOHN TWEEDY, Vice-Chairman.

H. R. BEEVOR	ROBERT JONES
A. HOLDEN BYLES	JOHN MACDONELL
JAMES CANTLIE	HOWARD MARSH
A. M. BOYD CARPENTER	F. JAMES MATHESON
ANDREW CLARK	MAUDE MAUFE
ERNEST CLARKE	E. H. POOLEY
D. EYRE	MARY SCHARLIEB
MALCOLM FOX	W. J. SIMPSON
F. E. FREMANTLE	A. WATT SMYTH
EDWARD E. HAYWARD	H. RUSSELL WAKEFIELD
T. H. HENDLEY	MARY A. WARD
A. HOARE	J. E. WALKER
T. HENRY HOWARD	A. T. WAUGH

Members of the Executive Council.

STATE SICKNESS AND INVALIDITY INSURANCE.

SIR,—While quite appreciating the point so well put in Dr. Grey's last letter—namely, that the freedom of medical men is far more likely to be conserved by payment for attendance as generally understood than by contracting with patients for a fixed sum per head—I entirely agree with Professor Moore in thinking that our attention should not be concentrated on an issue which is, after all, of secondary importance, and which, at a later stage, could be determined by the various Divisions or districts. If medical attendance is to be introduced in a State insurance bill, the matters of primary importance seem to be (*a*) to obtain such remuneration as will enable us to give adequate attendance to the working classes. That has been wanting hitherto, but it seems now to be generally agreed that it may be obtained through assistance being given by the employers and the State. (*b*) That, while every consideration should be given to the interests of those holding club and other appointments, no effort should be spared to obtain for the working classes, not only in our interests, but in that of themselves, absolute freedom of choice. (*c*) That the independence of medical men be secured, and that the character of the profession be not allowed to deteriorate through its members having to trim their opinions to suit the dominant party in a county council or to cater for the friendship or even the patronage of a friendly society official. Compared with these, the question of payment per head or for attendance seems quite secondary, and while I certainly think it should be referred to the Divisions, and, while it is one on which some of us will continue to hold a very definite opinion, I do not think it should be so urged as to cause division in our ranks.

Never, certainly, was there a time when it was so absolutely necessary that the medical profession should show an undivided front. If medical men are sufficiently united there is much, I believe, to be gained from State insurance, though there will be a stiff battle to fight. If there be division, if we fail in energy and organization, nothing will be gained by it. Our position and that of the large body of working classes for whom the Poor Law Commission has pleaded will, as regards medical attendance, be even worse than before. Looking back to the time when State insurance was first mooted, we can read plainly between the lines indecision on the part of the Government and a strong disposition on its part as well as on that of the press to magnify the position of friendly societies, while medical men are ignored.

Time was when we were led to believe that in any system of State insurance medical attendance would take a prominent part. The article which has appeared in the *Times* and *Manchester Guardian*, with its flimsy and ill-considered reasons why medical attendance should not be included, seems to have been written for a purpose. If this is really the intention of Government, and the medical profession is to be absolutely ignored, the question is: Are we to submit to it?

There are those who tell us we must tamely submit to the fiat of Government, that resistance on our part would be both foolish and hopeless. I am of an entirely different opinion. There are two parties to the making of a contract. Medical attendance cannot be given without the consent of medical men, and it will be entirely our own blame if we forfeit our claim and our right to be heard. It is not our own interests merely, but those of the great body of the people that are at stake. It is scarcely conceivable that any Government bringing in a bill to deal with sickness and invalidity should fail to take the opinion of medical men. We ought to have been more to the front in this matter; but even now the Government may be waiting to see if we have a mind of our own or if we have anything to propose. Granted, as is suggested in the *Times* article, that medical attendance were excluded from this bill, and large sums handed over by the Government and employers to friendly societies to provide for the working classes during illness, the altered state of affairs would demand from medical men an entire reconsideration of their position. Up to the present we have attended the poor out of charity or for fees that were utterly inadequate. Need we continue to do so? If sufficiently united we are in a position to say to the Government: "Hitherto we have attended the poor out of charity, or, in consideration of their poverty, at fees utterly inadequate. The attendance has not always been what it ought to have been, and it could not fail to be otherwise as the remuneration was insufficient. You have taken the matter in hand, and by exacting a claim from the employer and the taxpayer you have become responsible. We tell you the lowest rate at which adequate attendance is possible. We now insist on that being paid, and, if there are those who cannot pay, it is no longer we but the Government that is responsible."

In a country town with over a dozen doctors, where I once practised, this was the position taken up by its medical men. The workers were well paid. We formed a society, and passed a resolution that no one should hold a club or attend under a fixed rate, and to that we steadily adhered. There was no complaint on the part of the community. It became abundantly evident that our action proved not only a great benefit to medical men but to the community at large. Under the auspices of a powerful Association the same thing is possible in every town and district in England. There would doubtless be those who, caring nothing for the welfare of their profession nor even for that of their patients, but seeking only their own ends, would stand in the way. As in the past, from the great majority of consultants and specialists but little help need be expected, but an Association consisting largely of right-minded practitioners should be able to carry the day. Trades unionism! So be it. It has been of no little advantage to the country that workers are not universally sweated, and that through the power of combination many have succeeded in gaining an honest wage.

For these reasons I hold that we should not tamely submit to any proposal brought forward by the Government, but, if need be, by our unity and determination make it plain that legislation in the interest of the sick in this country will prove to be a very doubtful advantage if it does not have the cordial assent of its medical men.—I am, etc.,

Greenwich, Jan. 9th. J. H. KEAY.

*** From the extracts quoted last week (page 34) from the article in the *Times* certain sentences were omitted

which it may be well now to reproduce. They appear to show that those who have drafted the scheme are counting upon the continuance of the present system of medical clubs at the present inadequate rates.

Two of the principal benefits provided by the friendly societies are not included in the Government's provisional scheme. The medical insurance is one of the most valuable, as it is also one of the most popular, of the benefits provided by friendly societies. For the payment of a small weekly contribution—usually 1d. a week—the member secures skilled medical attention and medicine in the case of sickness, and a similar contribution usually provides a similar benefit for the member's wife. This is outside the scope of the Government insurance scheme.

The other benefit referred to is life insurance.

SIR,—I must at once answer Dr. Carter's letter, for he quite misunderstands me. I did not state, nor intend to infer, that because attendance at 2s. a visit would, on Dr. Cooper's estimate, cost a sum too great for the Chancellor to consider, therefore we must be prepared to accept a capitation fee which would pay us at the rate of 6d. or 8d. a visit. I did say that if each beneficiary required an average of twelve visits a year there would be little hope of us getting that 2s. If I thought that the attendance would be anything like as much as suggested, I should consider a 10s. capitation fee to be utterly inadequate.

Dr. Fothergill (BRITISH MEDICAL JOURNAL, January 7th, 1911, p. 46) accuses me of misreading his letter (JOURNAL, December 17th, 1910, p. 1945) in regard to the question of extras; but if he will look again, he will see that I did not say that "confinements, fractures, etc," would have to be counted as additional visits, but that in estimating the cost we must allow an additional sum for these extras; this I am sure he will not dispute.

I would ask Dr. Fothergill why, in his estimate of work required, he omits attendances at the surgery and Sunday visits. He further writes that I must know that no scheme for attendance on the whole population of the United Kingdom is even dreamed of. I only referred to it incidentally, but I do know that it has been dreamed of and discussed even in detail by many people, and if Dr. Cooper's estimate on page 46 is a good one, I hope that the idea will soon be put into practice. Using Dr. Fothergill's figures, he calculates that there would be an average of sixteen attendances per day, and thinks that £25,000,000 would not be an excessive allowance for medical attendance on 15,000,000 people. That for the whole population of 45,000,000 would equal an annual payment of £75,000,000, or £2,343 per annum for each of the 32,000 medical men. Put in another way, his estimate would mean an average annual payment of £1 13s. 4d. for each beneficiary.

Dr. Cooper writes:

A Government which simply looks at the matter from a commercial point of view will naturally try to obtain the greatest amount of work for the lowest expenditure; but a Government that wishes to establish a system of State insurance which will be a real boon to the workers of this country, and which will meet with the hearty and loyal co-operation of the whole medical profession, by paying a fair wage for work actually performed, will look a little higher than this.

But in a previous letter (p. 1999) he writes:

Is the Government likely to pay 10s. if it knows it can get the work done for less?

There are many references in the correspondence of the last few weeks as to the necessity of securing proper payment for our services, but at the same time we are told that the amount of the fees is merely a side-issue, and that "the discussion of pounds, shillings, and pence is not one for the medical profession to trouble about at this juncture."

In spite of this I would like to see the two following questions discussed:

1. How can we calculate the average number of attendances likely to be required by each beneficiary?

2. What are we to consider a fair average fee for an ordinary attendance?

I am sure that answers to these two questions will be very valuable to all who are trying to find a solution of the problem under discussion.—I am, etc,

Bradford-on-Avon, Jan. 10th. CHAS. E. S. FLEMMING.

SIR,—If the information of the *Times* correspondent, quoted in your leading article of January 7th, regarding the Chancellor of the Exchequer's scheme of State sickness insurance, is correct, it narrows down the controversy. The account given of the scheme appears credible because so much of our recent legislation has been little more than a timid recognition of sociological evils that are sapping the virility of the nation. One needs only to call to mind the Aliens Act; the Employers' Liability and Workmen's Compensation Acts, which have increased the duration of disablement from accidents to such an extent that a mutual insurance society I know has had to increase its rates 40 per cent. The Old Age Pensions Act almost places a premium on improvidence because it is not contributory. Now this State sickness insurance of 5s. a week will only pay the rent, leaves subsistence and medical treatment to faith; this is eminently unsuitable to the illnesses of the poor. Moreover, as there is no provision for medical treatment and no incentive to resume employment, the duration of illness will be increased as already has been the case in the disablement from accidents.

Politicians swimming in a flood of eloquent oratory, condemn the "idle rich" and "the gigantic waste in armaments." The true problem appears to me to be to provide work for the "idle poor"; and to prevent the improvident wage-earner from wasting his surplus earnings. This can only be done by making a compulsory deduction of a small percentage of his wages to provide against sickness and unemployment. There should also be safeguards against imposition.

I am not altogether surprised that the State should hesitate to tackle the medical aspect of insurance owing to the actuarial difficulties and the evident intention of the medical profession to get adequate remuneration for any services rendered.

We have no controversy on that point, in fact some of the most zealous of us advocate a fixed income whether any services are rendered or not; but these do not belong to the simple class of general practitioners who have had practical experience of club practice.

We have been unable to make these zealous advocates realize that the question with us is not so much a pecuniary one as one of principle—that the system of capitation payment is pernicious in its effect on both patient and practitioner. Now the issues have again been narrowed down the difficulties of the Drafting Subcommittee will be considerably lessened; and I know that every care is being taken to place all the advantages and disadvantages of each system of payment fairly before the Divisions. It will now only apply to the public medical services organized by the Association, which I take it will be governed by uniform principles, allowing a certain amount of local option in details. As this service is intended for persons who are not in a position to pay ordinary medical charges, perhaps a compromise would appeal to the moderate Englishman. A skeleton draft of such a scheme would be this: Suppose the working man, single or married, paid 1s. a quarter for the privilege of getting medical attendance on himself or family at reduced rates—say 6d. for a visit and 6d. for medicine; these to be booked on his privilege card, and paid for at the end of the quarter, before being entitled to a new card.

This would be a check on trivial calls, and would show that spirit of benevolence which has always characterized our profession.—I am, etc.,

Sittingbourne, Jan. 9th. WM. GOSSE.

SIR,—Dr. Henry Hick has hit the nail on the head when he says "Save me from my friends," and I would like to call attention to the SUPPLEMENT for December 31st, 1910, in which a scale of fees has been adopted by the Joint Committee of the Lancashire and Cheshire Branch. It is of such a just, not to say generous, nature that the fee for administering an anaesthetic is 7s. 6d., for adenoids 7s. 6d., and for minor surgical operations, 7s. 6d. Can anything be conceivably worse? I really think the profession will fare better if the British Medical Association leave us to the tender mercies of the Government.—I am, etc.,

Northwich, Jan. 10th. HENRY EDWARD GOUGH.

SIR,—At last the cat is out of the bag. At last we know something of what the Government's scheme for State sickness and invalidity insurance is to be like. A precious nice scheme it is too! Another nice sop to the non-income tax payers who seem, in the estimation of Mr. Lloyd

George, to be the only class of the community worthy of consideration. The idea of a man with as much as £160 a year requiring the assistance of the State and his employer to ensure that he may obtain the mighty sum of five shillings a week when he is ill is utterly ludicrous. I wonder if those of our friends who were so keen on a capitation scheme would be still willing to attend those three pound a weekers as contract patients. Just think of the irony of it where in an industrial community all the workers would be turned into members of a huge friendly society and without any previous medical examination. From a medical point of view I hope our profession will wash its hands completely of the matter and absolutely refuse to have anything to do with such a scheme.—I am, etc.,

Newcastle-on-Tyne, Jan. 8th. W. SINCLAIR FRASER.

SIR,—Having, I believe, read all the correspondence on this subject in the JOURNAL, I should like to congratulate Dr. Benjamin Moore on his eminently practical contribution. It is sincerely to be hoped that the profession will take his advice to heart: cease this unending wrangling over how we are to be paid—a matter which however much we debate, will certainly be settled altogether independently of us and our opinions, and concentrate all our efforts on securing that we are paid enough. I take it that, granted that the pay is sufficient, that it is guaranteed by Government, and that *a wage limit is imposed*, a large proportion of general practitioners, especially in rural districts, will be willing to take *a limited number* of poor patients at a capitation rate, and thus get some payment for what is now often done gratuitously. I say advisedly a limited number, because what I regard as absolutely essential in contract practice is that the practitioner should not be dependent on it. If it is generally known that such practice produces only a minor portion of his income, then and then only is it possible for him to secure reasonable conduct from the beneficiaries—in fact, to insist that they come or send at reasonable hours, and only for sufficient cause. Unless one can do this, all contract work must surely be detestable, and also ill done, and whether it is paid *per capita* or otherwise is an entirely unimportant detail.

For reasons which are not obvious it seems to be assumed that those engaged in contract work do no other practice, whereas this is rarely so, and it would be extremely unfortunate were it the case. I would suggest that, under the new system, contract work be so apportioned that few, if any, doctors are dependent on it, *so that due control remains with them;* and let us insist on the two essentials—adequate payment and a wage limit. The rest is, I think, immaterial.—I am, etc.,

Chichester, Jan. 9th. G. C. GARRATT.

The Services.

THE TERRITORIAL MEDICAL SERVICE.

COLONEL M. D. O'CONNELL, M.D., R.P. (Kirkby Wharfe, Tadcaster, Yorks), in the course of a letter referring to the communication published on page 2008 of the BRITISH MEDICAL JOURNAL of December 24th, 1910, writes:—

I think that the sick and wounded of the Territorial Army operating in England for home defence under Red Cross rules, instead of being passed from the fighting line to the field ambulances, from the field ambulances to the stationary hospitals and Voluntary Aid Detachments, to be conveyed to the general hospitals, could with much advantage to themselves be retained in the first hospital to which they are admitted, and any expert aid which they may require sent to them. Hence it seems to me that the need for mounted field ambulances, field ambulances, Voluntary Aid Detachments and general hospitals in an organization for home defence does not exist. With much deference, I would suggest that a much simpler organization on the following, or other similar lines, would be more suitable for the medical service of the Territorial army.

1. Medical personnel, coast defence units.
2. Medical personnel, other units.
3. Sanitary companies.
4. Unattached (with army troops).
5. Stationary hospitals.

The medical personnel and transport of coast defence and other units would require to be increased sufficiently to enable them to transfer, once and for all, the sick and wounded from the fighting line to the stationary hospitals. The stationary hospitals should be established where required—in buildings, or tents, as near as possible to the fighting line and in shelter from the enemy's fire. Once established, the Red Cross flag should be flown, and these hospitals not be vacated or moved, whether the enemy retires or advances. The sick and wounded admitted to the stationary hospitals should be disposed of as under:

1. Those seriously sick or wounded should be retained in the stationary hospitals, and such expert aid as they require sent to them.
2. Those slightly sick and wounded who are likely to be able to rejoin their fighting units should be retained in the stationary hospitals until fit to rejoin.
3. Those slightly sick and wounded who are not likely to be able to rejoin their fighting units should be sent to their homes when fit to travel.

When adopting the organization of the R.A.M.C. (Regulars) for the Territorial Medical Service, it would seem as if those responsible for so doing overlooked the fact that any possible invader of England would be a civilized enemy who observes the Red Cross rules. In an organization of the medical service for the Territorial army operating in England for home defence, where then is the necessity for mounted field ambulances, field ambulances, clearing hospitals, and general hospitals? By abolishing them and having only stationary hospitals the sick and wounded would derive two great advantages. They would only be moved once, and their medical attendants would not be changed frequently.

But whether the organization that I have above roughly outlined would be the most suitable or not, I think few will deny that an organization for affording aid to a force operating beyond the seas in an uncivilized country where the Red Cross rules are not observed, can possibly also be the most suitable for affording aid to the sick and wounded of the Territorial army when operating under Red Cross rules in England for home defence. By some such organization as I suggest a saving in transport alone would be possible, which would enable the State to be more just to the Territorial medical officers as regards their allowances and pay, and still save money on its Territorial Medical Service.

TERRITORIAL DECORATION.

THE Territorial decoration has been conferred upon the following officers of the Territorial Force, R.A.M.C.: Major J. A. Rigby, M.D., attached to the 2nd West Lancashire Brigade, Royal Field Artillery; Major J. D. Pratt, M.D., attached to the 4th (City of London) Battalion, the London Regiment (Royal Fusiliers).

SCOTTISH COMMAND LECTURES.

THE third of the series of lectures delivered by officers of the general staff on the technical training of R.A.M.C. officers, both regular and territorial, in field duties, was given in the Carlton Hotel, Edinburgh, on January 6th, by Captain A. B. Robertson. The subject dealt with was the System and Principles of Intercommunication. The third lecture of the special R.A.M.C. course at the Edinburgh Military Hospital was delivered the same afternoon by Major J. P. Silver, R.A.M.C., who dealt with the Improvization of Transport for Sick and Wounded. This subject is an important one, in view of the shortage of technical transport material for the medical service in all campaigns.

INDIAN MEDICAL SERVICE.

ALLOWANCES FROM LOCAL FUNDS.

IT has been decided that in future no Indian Medical Service officer drawing allowances from local funds will be allowed to proceed to Kasauli for a course of training in clinical bacteriology and technique unless he is prepared to forego those allowances, or unless the local fund authorities agree to pay these allowances both to the officers permitted to go to Kasauli and to the officers appointed to act for them. In all other cases such officer will be entitled to retain any local allowance drawn by him immediately before he proceeded to Kasauli without prejudice to the claims to such allowance of the officer acting for him.

Contract Medical Practice.

S. writes: The answer given to G. E. L. is a surprise to me. I have been in practice about sixteen years, and hold several club appointments. I always ask for a fee of one guinea for a consultation, and although at first such a request was met with a refusal, yet a little firmness on my part resulted in the fee being paid, and I now have no difficulty in obtaining it. I persuaded my club committees that consultations are generally somewhat of a luxury, that they are more often than not unnecessary except for the "satisfaction" of some interfering or officious relative, and that they always entail a fixed appointment, to the inconvenience of the club doctor. Surely it is time for club doctors to realize that they hold the trump card, and that a little firmness will result in better fees and more reasonable work. We can, if we are united, do without the clubs, but the clubs cannot do without us, and the members are reasonable men if they are met with reasonaale arguments.

Obituary.

EBENEZER DAVIES, M.R.C.S., L.S.A.,

FORMERLY M.O.H. SWANSEA.

We have to record with much regret the death at the age of 81 of Dr. Ebenezer Davies, who was for forty-three years Medical Officer of Health to the Swansea Urban and Port Districts.

Dr. Davies was born at Haverfordwest, received his medical education at Guy's Hospital and took the diplomas of M.R.C.S.Eng. and L.S.A. in 1852. Shortly afterwards he settled in Swansea. The town was then going through a period of sanitary transition. Dr. G. G. Bird, who was mayor of the borough in 1842, had sought to arouse the attention of the citizens to the insanitary conditions of parts of the borough; he was warmly supported by Councillor W. H. Michael, also a past mayor, who eventually resigned his seat on the council to undertake the duties of medical officer of health. This was in 1853, and the outbreak of cholera in that year helped the sanitary movement. The making of a health-rate, however, aroused considerable opposition, and before the end of the year it was resolved not to renew the appointment but to place upon the superintendent of police the additional duties of inspector of nuisances at a salary of £10 a year.

The subsequent history we may quote from an interesting and sympathetic obituary notice in the *Western Mail*: "The outbreak of yellow fever in 1865 and the passing of the Sanitary Act of 1866, making sanitary measures compulsory by authorities, led to the appointment of Dr. Ebenezer Davies, who brought to the duties a zeal and prudence which are above praise, and which unquestionably had considerable effect on the health of the borough. During his forty-three years of office he had to deal with complicated causes of outbreaks of small-pox, typhoid, and other epidemics, and in each case his measures were well timed and effective, and the evil was often traced to its source. He was a most skilful medical officer of health, being a master of statistics and also of preventive measures, and his control of the port sanitary department was salutary. During his term of office the health of the borough improved very considerably. During his tenure of the post of medical officer the population of the borough increased from 45,000 to 102,000, and the death rate fell from 28 per 1,000 to 18 per 1,000."

In 1908 Dr. Davies, feeling the duties of his office too onerous to a man of his advanced years, resigned, and the appreciation of the Corporation of Swansea and its staff was shown by their presentation to Dr. Davies of a handsome piece of plate. Dr. Davies was a member of the British Medical Association, and had been President of the South Wales and Monmouthshire Branch, and the members took the opportunity of making him a presentation as evidence of their appreciation of his long and honourable service to the cause of public health.

In addition to the office with which his name was especially associated, Dr. Davies was Medical Officer to the Swansea Post Office and Swansea Training College, and Admiralty Surgeon and Agent. He also held the office of President of the West of England and South Wales Branch of the Society of Medical Officers of Health. Outside his official duties Dr. Davies took a deep interest in social work, in which he was ably seconded by his wife. He was Secretary to the British and Foreign Bible Society for many years, and had been President of the Sunday School Union.

Dr. H. A. Latimer, of Swansea, writes: By the death of Mr. Eben. Davies, Swansea loses its oldest and one of its most respected medical practitioners, and, it is not exceeding the truth to say, a man who was beloved by his professional brethren who had been brought into contact with him. It was impossible to meet and to have intercourse with Mr. Davies without quickly appreciating his honesty of purpose, his urbanity, his straightforwardness, and his outspoken defence of what he considered to be right in life. Of an earnestly religious mind, he unostentatiously practised a life of philanthropic and kindly work. He had lived to experience the due appreciation of these merits, both by his fellow townsmen and by his medical colleagues, and, dying at a ripe old age, he leaves behind him a record of a well-spent life. He and Mrs. Davies, who survives him, had been spared to see their children, sons and daughters, taking good places in life; and it was with an especial pride that he noticed the due recognition of the splendid work of his son, Dr. William Davies, of Johannesburg, who was decorated with the D.S.O. for his services during the war in South Africa, and subsequently was appointed Colonel of the Imperial Light Horse, and later, President of the Transvaal Medical Council. In writing this I give a clue to a very lovable trait in Mr. Davies's character, for nothing gave him greater pleasure than to see the merits of others duly appreciated. I well remember the dinner at which he was entertained by his medical friends on his relinquishing practice, where, among the other speeches, Sir John Williams, Bart., K.C.V.O., who had been one of his pupils, bore affectionate testimony to the worth of his old master. In his medical work he was painstaking and thorough—a fact which was recognized by the large private practice he enjoyed for many years. In his tenure of office as Medical Officer of Health in Swansea he had to do pioneer work, and to cope with some serious epidemics. Mr. Davies was ever ready to give all facilities to his medical brethren who sent cases into the Borough Infectious Hospital, and, on hearing of his death to-day, one of the junior practitioners here told me how much he had valued the kind way in which he had been treated by him in this respect, together with the instruction which he had given him out of his ripe experience in the diagnosis and treatment of acute infectious diseases. He was attended in his last illness, which was of a painless nature, by his friend, Dr. R. C. Elsworth of Swansea.

SYDNEY PARTRIDGE, M.D.Edin.,

MEDICAL OFFICER OF HEALTH, DARLASTON.

The death took place, on December 20th, of Dr. Sydney Partridge, of Darlaston. The event, which is recorded with much regret, was almost unexpected, for he was only in the 50th year of his age, usually enjoyed admirable health, and had been ill only two days. The cause was septic meningitis, originating in an aural trouble which was of quite recent development, and had given rise to no anxiety.

A Darlaston man by birth, a son and one time partner of an equally well-known Darlaston doctor, Sydney Partridge on leaving school began life as an engineer, and was thus somewhat older when he first qualified in medicine than are most medical men at this stage of their career. His medical education he received at Edinburgh University, where he took the conjoint diplomas and the degrees M.B., C.M. of Edinburgh in the same year, and then worked for a time as Demonstrator of Anatomy. Finally, after rounding off his studies by work at the Rotunda Hospital, Dublin, and elsewhere, he took the M.D.Edin. in 1889, receiving commendation for his thesis. He then joined his father in practice at Darlaston, and eventually succeeded to the whole of the practice on the retirement of the latter. Altogether he had been in practice in Darlaston for over twenty years. He was M.O.H. for the town, Medical Officer and Public Vaccinator to the Darlaston district of the Walsall Union, Surgeon to the Police, Certifying Factory Surgeon, and Examiner and Lecturer to the local division of the St. John Ambulance Association. His practice both in Darlaston and in the surrounding villages was large, and there was no more familiar or popular face than his. He was one of the best types of medical practitioner, with a good knowledge of his profession, a cheeriness both of heart and manner, a fine sense of *esprit de corps* which made him popular with his colleagues. He threw himself fully into his work, whatever it might be, and was generally recognized not only as an encouraging, but a truly sympathetic friend, in times of sickness and trouble. His good qualities were obvious to all, but more especially to children, who took to him instinctively. He was a Fellow of the Royal Institute of Public Health and of the Society of Medical Officers of Health, and a member of the South Staffordshire Division of the British Medical Association, and had contributed several papers to the columns of this Journal.

His funeral took place on the third day after his death, and was attended by a large concourse, including many medical men and representatives of the Darlaston District

Council, and several local institutions. Dr. Partridge was married, and is survived by his wife and five children—three girls and two boys.

WALTER BROCK DE JERSEY, M.B., B.C.CAMB., M.R.C.S., L.R.C.P.LOND.

IT is with deep regret that we record the death of Dr. Walter Brock de Jersey, of Guildford, which occurred at Ascot on December 2nd, at the early age of 47.

Dr. de Jersey was the son of Mr. Carey de Jersey, of Guernsey. He was educated at Elizabeth College, Guernsey, and Marlborough. He proceeded to Pembroke College, Cambridge, in 1881, graduated B.A. in 1884, and entered at St. Thomas's Hospital in 1886. In 1889 he qualified as M.R.C.S., L.R.C.P., and graduated M.B., B.C. in 1890. He held the posts of House Physician and Clinical Assistant in the Ear Department at St. Thomas's Hospital, and subsequently that of House Surgeon and Senior Resident Medical Officer at the Evelina Hospital for Sick Children. After a voyage to the West Indies with Lord Brassey on the *Sunbeam* as Medical Officer, he married in 1893, and, having engaged in private practice in London for a short time, finally settled in Guildford in 1895. For several years past he had been Honorary Medical Officer to the Royal Surrey County Hospital, where his loss is much deplored by his colleagues and the staff of that institution.

His health had been failing since the summer, but he continued his work, and only reluctantly gave up, some three weeks before his death, to go to a Nursing Home at Ascot. His untimely death came as a painful surprise to his friends and patients, as it was not generally known that he was seriously ill. He was buried at Stoughton Cemetery, Guildford, the first part of the service taking place at Christ Church, which was attended by a large and representative gathering, including all the medical men practising in the town, and many former patients. He leaves a widow, a son, and two daughters to deplore the loss of a much-loved husband and father.

Dr. de Jersey was ever ready to assist his colleagues, and the writer had frequent opportunities of appreciating the kindliness and generosity of his nature. He adopted a high standard of professional etiquette, and his advice on this and other matters was readily given and greatly valued. He was much attached to his work and took a personal interest in all his patients. The following appreciation is an example of the esteem and confidence which he inspired in his patients:

"Dr. de Jersey had characteristics and qualifications which make his loss seem irreparable to those of us who esteemed it a privilege to consult him as the 'family doctor.' The entire absence of the spirit of the 'high priest'; a wonderful sympathy and the perfect courtesy of the best type of an English gentleman united in confirming the confidence which his professional skill inspired. 'Rich in saving common sense' and possessed of a ripe and well-balanced judgement, his advice on matters non-medical was frequently sought with the happiest results."

EDWARD HOWARD COLLENS, M.B.LOND., M.R.C.S., L.R.C.P.

THE death of Edward Howard Collens, of Hereford, at the early age of 38 years has cut short a career of much promise. Until the end of November last he was actively engaged in the work of a large practice; he then visited Vienna for the purpose of undergoing an operation for the removal of a pituitary tumour. He was under the joint care of Professor v. Frankl-Hochwart and Professor v. Eiselsberg and Dr. O. Hirsch, all of whom were unremitting in their attention to him. The operation was skilfully performed by Dr. Hirsch, and the autopsy showed that the surgical procedure had been faultlessly carried out. There was no meningitis, but the tumour had extended far beyond the limits of the pituitary fossa. The immediate cause of death on December 18th, a week after the operation had been carried out, was bronchopneumonia.

Edward Howard Collens was a native of Stourport, and received his medical education at the Mason College, Birmingham, where he was Prosector of Anatomy. In 1898 he took the diplomas of L.R.C.P.Lond., M.R.C.S.Eng.; in the following year he graduated M.B. at London University. After holding the position of House-Surgeon at Queen's Hospital, Birmingham, he succeeded to a practice in Hereford, where he soon established for himself a reputation as a careful and skilful diagnostician, and earned the regard and esteem of his colleagues and the confidence of his patients. He was on the staff of the Hereford Provident Dispensary, and for several years held the positions of Superintendent of the Isolation Hospital and of Police Surgeon. In the latter capacity he trained the city police in ambulance work, and to this work brought an enthusiasm which was reflected in a high pitch of excellence among the members of the force. He was a member of the British Medical Association and the Herefordshire Medical Society. He had very high ideals of the duties which medical practitioners owe to one another; and his untimely death is a distinct loss to the city of Hereford. Much sympathy is felt with his widow.

NEWS just received by cable from the Ivory Coast, West Africa, tells of the sudden death at San Pedro there of Dr. T. F. MACDONALD on December 14th. A wide circle of friends and scientific, artistic, and literary acquaintances will deplore his death at the comparatively early age of 48. He was born at Maryhill, Glasgow, and was early associated with his father, the late Dr. William MacDonald, who carried on an extensive general practice there. Soon after graduating in medicine and surgery at Glasgow University in 1882 he took up the special study of tropical diseases, and with that object in view he spent several years in various parts of Australia and New Zealand. Returning to this country in 1889, he continued his special research, and in 1892 took the diploma of M.R.C.V.S. During the two following years he visited Germany, America, Italy, Egypt, China, and Japan, making contributions to various scientific bodies in these countries on subjects connected with tropical diseases. For ten years thereafter Australia was again the sphere of his investigations. There he found time to take up the subject of "white Australia," and he was recognized as a pioneer of the movement. Engrossed as he was with his scientific pursuits, he nevertheless found time to indulge his literary tastes. He was a graceful writer of verse, as was proved by a small collection of sonnets and songs published by him two years ago under the title of *North Sea Lyrics*. At one time he was a keen Volunteer, and held a commission in the Dumbartonshire Rifle Corps; he never gave up the practice of rifle shooting, and while in Australia and other places he founded rifle clubs and in other ways encouraged rifle and revolver shooting.

Public Health
AND
POOR LAW MEDICAL SERVICES.

INSPECTION OF LAUNDRIES AND WORKSHOPS ATTACHED TO POOR LAW INSTITUTIONS.

FROM a circular issued by the Local Government Board we learn that an arrangement has been made between the Board and the Secretary of State for the Home Department with regard to the inspection by inspectors of factories of certain portions of workhouses and other Poor Law establishments. Any laundry or workshop where industrial work is carried on, or machinery used, attached to any Poor Law institution, may be inspected by the inspector of factories in charge of the district in which the institution is situated. The factory inspector will report, through the Home Office, to the Local Government Board on any point that, in his opinion, requires attention. Where only inmates are employed, the factory inspector will report only on the ventilation of the workshop or laundry, the fencing of machinery, the use of dangerous plant or materials, the carrying away of fumes, steam or dust, and similar matters. In these cases he will not report on hours of labour. Where paid hands, as well as inmates, are employed, the inspector will report on the hours of labour of the paid hands. Persons employed only for purposes of supervision or instruction will not be regarded as paid hands. Where any accident (fatal or other) caused by machinery, explosion, or electricity, or any case of industrial poisoning occurs in any such laundry or workshop, particulars should at once be sent to the factory inspector.

REFUSE DESTRUCTORS.

Town Councillor.—A refuse destructor constructed on the most modern and approved lines and efficiently managed should not deposit fine dust on surrounding objects. The nuisance connected with such a destructor is usually associated with the conveyance to it of the refuse in improperly covered-in vehicles, a defect which it ought to be possible to remedy.

Medico-Legal.

RESPONSIBILITY FOR FEES.

In the Hungerford County Court, Wiltshire, on November 25th, 1910, a claim was made by a medical man for attendance on a young woman who had been knocked down and injured by the defendant's motor car.

The defendant admitted that he had asked the medical man to take charge of the case and promised to pay all the expenses, but claimed that this undertaking had been fulfilled in the following way: The injured girl brought an action against him, putting in her medical expenses as part of her special damages. The jury before which the case was tried had an account of these expenses before it, and their amount was taken into consideration by it when determining what damages to award the injured girl. The medical man admitted in the present case that he had sent his claim for fees in the first place to the lawyers of the injured girl, at their request, and had also given evidence as to this claim when her case was tried.

The court therefore ruled that in the present action the verdict must be against him. The defendant had discharged his liabilities by the payment made to the injured girl in consequence of the verdict of the jury in the case brought by her, that payment including a sum for medical expenses, and it was to her that the medical man must now look for payment.

WORKMEN'S COMPENSATION ACT.

Employment of a One-eyed Man.

In the Whitechapel County Court (December 8th, 1910) Counsel asked Judge Bacon to review the circumstances of a case of distress under the Workmen's Compensation Act. The applicant, an able-bodied seaman, met with an accident on a vessel, and lost the sight of one eye. Last April, Judge Bacon was assured by evidence that the applicant could be further employed as a seaman, though he had only one eye, so he suspended the award and kept it alive by ordering a payment of one penny weekly. Mr. Abinger said the man was destitute. He had been refused work by eight shipping lines. He had walked the streets at night, and on one occasion had fell down in an exhausted condition, and was taken to an infirmary. The man said that when he applied at one ship he was told that they did not carry cripples. He walked the streets for about eight days. The Shipping Federation did not offer him any work. Judge Bacon said that at first he thought it was not possible for a seaman with one eye to do his work properly, but he made the alteration in accordance with the evidence which had been given to him that the man could be employed. He did not agree with the contention that the man had been unable to obtain employment owing to the state of labour in the Mercantile Marine. He now reviewed the circumstances, and directed that the man should receive 10s. a week, the order to be dated back to October.

Consent to Undergo an Operation.

In Hamblet *v.* Sutton Manor Colliery (St. Helens, October 12th) the applicant was working in a colliery, and when lifting a box he felt a pain in his groin, and could not go on with his work. He reported the accident, and the manager told him to go and see Dr. Tough. Dr. Tough told him that he must undergo an operation. He ordered a truss at the expense of the colliery company, and it was supplied to Hamblet. The only point in dispute was that of capacity.

Hamblet was asked if he was now willing to undergo the operation.

Applicant: I don't know.

Judge Shand: I suppose if the doctors say that you will be put all right by the operation you will be willing?

Applicant: Yes.

Judge Shand said he would make the award of 14s. 8d. during incapacity. When the operation was done the man would no doubt get perfectly well and the matter come to an end in a perfectly natural way. He allowed costs on scale B, and a qualifying fee for Dr. Evans.

Loss of an Eye.

W. A. C. asks to what allowance, either as part of usual weekly wage or as a lump sum, a farm labourer would be entitled for the total loss of an eye as the result of an accident.

*** The man would be entitled to half his weekly wages during total incapacity. After recovery from the immediate effects of the injury it would then be for the county court judge to decide what amount of incapacity existed for this particular work. The remaining eye being perfect, a one-eyed person is held to suffer from certain disabilities, such as disqualification for certain occupations and loss of the chance of promotion in others, owing to loss of one-sixth of the visual field and loss of binocular vision and loss of stereoscopic vision. In old individuals there may be permanent loss in judging distances and recognizing the depth of solid bodies. Younger persons may recover from this in from a few months to a year or two; the deformity itself may prevent a man from getting work.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee, except when so stated.

United is recommended to bring the matter to the notice of the executive committee of the local Division of the British Medical Association.

Universities and Colleges.

UNIVERSITY OF LONDON.

University College.

During the temporary absence of Professor Starling, F.R.S., owing to ill-health, Dr. W. M. Bayliss, F.R.S., has been appointed Acting Professor of Physiology in University College, London.

Lister Institute of Preventive Medicine.

Statistical Department (Session 1911).—The following courses of instruction will be provided:

1. Elementary. Not less than eight classes (lectures and practical work) suitable for medical men taking up public health or administrative work, commencing in the third week of January.

2. Lectures on problems of applied statistics (four lectures on work done in the institute's department) in February.

3. Advanced lectures on special problems in the mathematical theory of statistics which are of importance in medical inquiries (four lectures in March).

No fee will be charged in connexion with these courses, and those who desire to attend are requested to apply in writing to the secretary as soon as possible, stating at which course they desire to be present, when particulars as to dates will be furnished.

UNIVERSITY OF EDINBURGH.

The Annual Report, 1910.

The following statements are among those made in the annual report of the university authorities for the recently concluded year:

Number of Students.

During the past year the total number of matriculated students (including 624 women) was 3,366. Of these, 382 (including 19 women) were enrolled in the faculty of science; 1,370 (including 21 women) in the faculty of medicine. In the faculty of science a record has been made, the number of students for 1909 having been exceeded by 38. Of the students of medicine, 615, or nearly 45 per cent., belonged to Scotland; 257, or nearly 19 per cent., were from England and Wales; 105 from Ireland; 96 from India; 245, or nearly 18 per cent., from British colonies; and 52 from foreign countries. These figures show that the proportion of non-Scottish students of medicine is well maintained. Besides these matriculated students, 95 non-matriculated students have paid the 5s. entrance fee, 28 of whom were women, chiefly attending music, and French and German literature classes. The number of women attending extra-academical lectures, with a view to graduation in medicine in the university, was 58.

Degrees Conferred.

The ordinary degrees conferred during the year include: Bachelor of Science, 58 (a record number); Doctor of Science, 5; Bachelor of Medicine and Master in Surgery, 1; Bachelor of Medicine and Bachelor of Surgery, 214; Doctor of Medicine, 76; Master of Surgery, 2.

The diploma in Tropical Medicine and Hygiene was conferred on five candidates.

The General Council of the University now numbers 11,241.

Scholarships, etc.

The total annual value of the university fellowships, scholarships, bursaries, and prizes now amounts to about £18,870, of which £1,585 is in the Faculty of Science, and £3,890 in the Faculty of Medicine. A number of bursaries are in the gift of private patrons, but the great majority of the university bursaries, prizes, etc., are awarded by the Senatus after competitive examination. In addition to the above, a sum of upwards of £660, being the income of the Earl of Moray Endowment Fund, is annually available for the encouragement of original research.

Lectureships and New Courses.

Several new lectureships have been instituted by the University Court, and a sum of over £5,000 has been given to the university by Robert Munro, Esq., M.D.Edin., LL.D., of Elm Bank, Largs, Ayrshire, for the foundation and endowment of a lectureship in the university to be known as "The Munro Lectureship on Anthropology and Prehistoric Archaeology." Dr. Munro has himself been appointed first lecturer, and he is expected to deliver the first course of lectures during the academic session 1911–12. The Court has appointed Mr. A. Murray Drennan, M.B., Lecturer on Practical Pathology.

Personal Changes.

Several vacancies in the teaching staff fall to be recorded. At the end of the summer session Dr. T. S. Clouston resigned the Lectureship in Mental Diseases, of which he was the first holder, having been appointed in 1879. It is a matter of great regret to the university to be deprived of the services of one who was connected for so long with its Faculty of Medicine, who, by his teaching and writing, did so much to advance the scientific study of mental disorders, and who wrought such improvements in the treatment of the insane. The post of university librarian, rendered vacant by the death of Mr. Alexander Anderson, has been filled by the appointment of Mr. Frank C. Nicholson, M.A. There has been one change in the personnel of the Court of Curators, Dr. Joseph Bell having succeeded the Hon. Lord Stormonth Darling as one of the members elected by the University Court. Mr. A. B. Fleming, W.S., has been appointed Secretary of the Curators in succession to the late Mr. R. Herbert Johnston, W.S. At the general parliamentary election in January, Sir Robert B. Finlay, M.D., LL.D., etc., was elected, and in December he was re-elected, without a contest, member of Parliament for the Universities of Edinburgh and St. Andrews. Mr. William Brown, M.A., B.Sc., is successor to Mr. J. W. Bews, as Lecturer on Plant Physiology. Mr. R. B. Thomson, M.B., is now second Lecturer in Anatomy, a vacancy having been occasioned by the resignation of Dr. David Waterston. Messrs. David Wallace, M.B., C.M., J. M. Cotterill, M.B., C.M., and J. W. B. Hodsdon, M.B., C.M., have been appointed Lecturers in Clinical Surgery. Dr. C. G. Knott has been appointed to the important post of Official Adviser in the Faculty of Science.

Grants and Benefactions.

The Lords of His Majesty's Treasury, acting upon the recommendation of Lord Elgin's Committee, have informed the University Court that they are prepared to make a substantial increase in the annual grant from public funds to the University of Edinburgh.

As in former years, the university has to make grateful acknowledgment of numerous benefactions. The Carnegie Trust for the Universities of Scotland continues to make generous provision for some of the needs of the university, especially in regard to the endowment of lectureships, the purchase of books for the library, buildings, permanent equipment, and apparatus; while of the large sum devoted by the Trust to the payment of class fees, about one-third comes to Edinburgh students. A gift has been made by Emeritus Professor Alexander Crum Brown for the use of the department of chemistry, as a class library, of the books which he lent for the same purpose when he retired from office; a gift by Dr. Henry Barnes, Carlisle, of a bust of William Harvey; gifts by Mr. James Lyle, Queen's Crescent, Edinburgh, of a gong of Manipur workmanship (now rare), to the anatomical museum of the university, and of an excise certificate in the handwriting of Robert Burns, to the library. Emeritus Professor Campbell Fraser has presented to the university a portrait of himself, painted by Sir George Reid; and Mr. John Storer Beveridge has gifted to the university an engraved portrait of Alexander Monro, M.D., secundus. The accumulation of funds on the Gunning Foundation has rendered possible the institution of a twelfth Gunning Prize of £50 in the Faculty of Medicine, the new prize to be in the subject of public health. There has also been instituted an additional Hope Chemistry Prize of £30.

The Library.

Additions to the University Library for 1910 numbered 4,902, among them being the library of Dugald Stewart, late Professor of Moral Philosophy in the University of Edinburgh (1785-1820), consisting of some 4,000 volumes, having been consigned to the custody of the University by the United Service Club, London, to whom it had been bequeathed by the Professor's son, Colonel Matthew Stewart, in 1852.

The recataloguing of the library having been finished in 1906, and the alphabetical arrangement of the entries and insertion of cross-references being also practically complete, the question as to the printing of the catalogue will have to be seriously considered at a near date. No funds are at present available for this purpose, but perhaps some generous donor may ere long be found willing to associate his name with this important work.

Rector's Address.

The Lord Rector, the Right Hon. George Wyndham, M.P., LL.D., delivered his Rectorial Address to the students in the M'Ewan Hall, on October 28th, 1910, his subject being The Springs of Romance. The meeting, which was also attended by the chief office-bearers of the university, and by many ladies and other guests, was admirably organized by the Students' Representative Council.

Miscellaneous.

A new scheme of examination for first year bursaries in arts has been adopted, and will come into operation in September next. Under this scheme the choice of subjects has been somewhat enlarged, and equal value is attached to each subject. Regulations have been drawn up, and are now in operation, for a new M.A. Honours Group—that is, in the subjects of Latin and French. Accommodation was again given in August by the university authorities for a scheme of vacation courses in modern languages; also, in September, for a scheme of post-graduate courses in medicine held under the joint auspices of the university and the Royal Colleges of Physicians and Surgeons, and both of these schemes proved highly successful.

UNIVERSITY OF BIRMINGHAM.

THE Chancellor of the University, Mr. Joseph Chamberlain, has addressed an appeal to the City Council for a further grant from the rates to the university. Ten years ago the council authorized an annual grant equivalent to a halfpenny rate. The appeal states that the number of students has since increased from 678 to 957, the professorial staff from 29 to 37, and the junior staff from 42 to 83. The income at present is inadequate, and the University Council has for want of means been compelled for some time past to practise a harmful economy, and to decline to sanction new developments. The deficit for 1910–11 is estimated at £10,606. The university pays £2,250 annually to the city in rates. The appeal points out that the Chancellor of the Exchequer has appointed a special committee to apportion the additional annual grant of £50,000 a year to University Colleges on certain defined principles. The committee is to take into consideration the amount of local support, and the share in the grant is to a considerable extent to be proportionate to that support. The appeal concludes by pointing out that other modern universities are aided by municipal grants, and asks Birmingham to increase its contribution to the extent of another halfpenny rate, so as to enable the university to claim its fair share in the new Treasury grant.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

CHEMISTRY.—C. A. Hepburn.
MATERIA MEDICA AND PHARMACY.—H. Cox, R. Jones.
ANATOMY.—A. Abdelal, D. Blair, H. Dudley, N. E. Farr, F. C. Godding, G. B. Holroyd, R. Jones, H. E. Rose, A. H. Taymour.
PHYSIOLOGY.—A. Abdelal, H. Dudley, F. C. Godding, R. Jones, H. E. Rose.

Medical News.

THE King has approved of the appointment of Dr. Theodore Dyke Acland and Dr. StClair Thomson to the Consulting Staff of the King Edward VII Sanatorium, Midhurst.

THE presidential address before the Royal Microscopical Society will be delivered by Professor J. A. Thomson, F.R.S.E., at 20, Hanover Square, on Wednesday next, at 8 p.m.

THE memorial erected in the Enfield Public Garden to the memory of the late Dr. J. J. Ridge, founder of the Medical Temperance Association, will be unveiled by the Lord Mayor of London on January 21st.

THREE lectures on the Comparative Anatomy of the Vertebrate Ear will be given by Mr. R. H. Burne at the Royal College of Surgeons, Lincoln's Inn Fields, on Thursdays, January 19th and 26th and February 2nd, at 5 p.m.

THE Philosophic Faculty of the University of Marburg has conferred the degree of Doctor *Honoris Causa* upon Mr. Ernst Leitz, of Wetzlar, the principal of the firm of Leitz, microscopic and photographic apparatus manufacturers.

AT the annual general meeting of the Royal Meteorological Society to be held at the Institution of Civil Engineers, Great George Street, Westminster, S.W., on Wednesday next, at 7.45 p.m., the president, Mr. Henry Mellish, F.R.G.S., will give an address on "The Present Position of British Climatology."

THE adjourned discussion on the Workmen's Compensation Act will be resumed by Mr. Arthur S. Morley, F.R.C.S., at the meeting of the Medico-Legal Society to be held at 11, Chandos Street, W., on Tuesday, January 24th, at 8.30 p.m. Dr. Walter Asten will read a paper on traumatic neurasthenia and the Workmen's Compensation Act.

IN addition to the papers announced in the Diary (SUPPLEMENT, p. 24) as to be read at the Royal Society on Thursday next, we are informed that Colonel Sir David Bruce and others will read two papers on experiments to ascertain whether the antelope and the domestic fowl of Uganda may act as reservoirs of the virus of sleeping sickness (*Trypanosoma gambiense*).

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

BAM asks what is the best treatment for caput succedaneum. The child was born about a month ago.

SENEX asks for advice in the treatment of a retired medical man, aged 85, who, while otherwise in good health, experiences severe straining during defaecation, and eventually passes a large evacuation of which he is unconscious. He has suffered from prolapse for forty years, which, however, only comes down during defaecation. There is no evidence of growth, but the mucous membrane seems folded on itself about 3 in. up the rectum. There is no pain except on defaecation.

TREATMENT OF GLOSSITIS.

A. B. requests information on a severe form of glossitis from which he suffers, and which so far, after seven months' duration, has resisted all forms of treatment, mild and severe, internal and local. He is assured that it is not leucoplakia nor any of the recognized forms of glossitis, but in all probability due to hyperchlorhydria. He has been a lifelong dyspeptic, but now at 47 years of age has a much better digestion and greater vitality than at any previous time. He is a teetotaler and non-smoker, and has added no salt to his food for seven years. The glossitis is characterized by a complete shedding of the mucous membrane, chiefly at the tip of the tongue, and a denudation of the papillae, which makes speaking especially a most painful procedure. This heals in about ten days, and recurs in a few days more. The tongue has always been fissured and tooth indented, and the mucous membrane of the cheeks shares in occasional ulceration. There is no parasite. Any information as to the treatment or literature of the subject would be gratefully received.

ANSWERS.

TREATMENT OF CHILBLAINS.

DR. H. J. THORP (Ipswich) writes: In reply to H. G. S., I would suggest the following: If the skin is not very tender it may be painted with tincture of iodine, or tr. iodi and lin. saponis equal parts, or the inflamed skin smeared with lin. terebinth. acet. or sp. camphor. If the cuticle is tender or sore the parts to be painted with several layers of flexile collodion. The general circulation should be promoted by exercise and good food, the parts being kept warm by woollen socks and gloves.

HISTORY OF MEDICINE.

STUDENT.—We think Dr. E. T. Withington's *Medical History from the Earliest Times: a Popular History of the Healing Art* (London: Scientific Press, Limited, 1894) would fulfil our correspondent's requirements.

INCOME TAX.

OVERTAXED.—In the circumstances set forth the demand note might be returned to the collector with an intimation to the effect that our correspondent is awaiting a communication from the surveyor in regard to his objection to the assessment. It would be well to write also to the surveyor claiming that application which has been made for reduction should have due consideration before payment of the duty.

LETTERS, NOTES, ETC.

THE PREVENTION OR ABORTION OF CATARRH.

DR. ARTHUR G. TURNER (C.M.S. Hospital, Quetta, Baluchistan) writes: Dr. Hardman, in the BRITISH MEDICAL JOURNAL of September 24th, asks, "Is it possible to prevent catarrh, or catarrh having commenced, is it possible to abort it?" I believe from my own experience that, if an attempt be made at the very commencement of a catarrh of the nasal passages, it is possible to abort it. Some years ago I suffered very frequently from such attacks, the least draught or exposure to cold producing a severe catarrh lasting usually for three or four days in the acute stage. By accident I discovered that if, immediately on feeling the first symptoms, I practised taking a deep breath every now and then, say every five or ten minutes for half an hour or an hour, that the attack did not proceed, and many times have I satisfied myself of the utility of the method. It has since then been rare for me to have more than one catarrhal cold in six months, where before I was having one every two or three weeks.

HOW TO USE THE "JOURNAL."

DR. G. LAPRAIK (Thames, N. Z.) writes: I was interested in reading the methods adopted by Drs. Coombs and Hawthorne. My method briefly is as follows. I have a sort of bookcase or cabinet with compartments, A, B, C, etc.; the shelves of the compartments are movable, so that the size of the compartments can be increased when necessary. Important articles from my medical journals are cut out from the JOURNAL and placed in the cabinet—say appendicitis in compartment A. I also keep a "synoptical index." I thus have a speedy means of reference, which is very necessary in these busy times. I may say I also carefully file the half-yearly or yearly index of the various journals.

AN UNUSUAL AURAL REFLEX.

DR. W. B. RUSSELL, M.B. (Colwyn Bay), writes: A lady who suffers from a flabby and dilated heart, with occasional asthmatic symptoms, complained of attacks of faintness and noises in the ear. I inserted the speculum and noticed this: she at once began to cough, and then immediately after I had syringed forcibly some wax out of the ear she had an attack of wheezing, with a sensation of asthma and oppression. A small dose of brandy greatly relieved the disagreeable sensations. I suppose that the reflex occurred by way of Arnold's nerve in the meatus, through the distribution of the vagus to the bronchi, and perhaps the heart. I did not notice any change in the pulse after the attack. I should be glad to know if this is a rare occurrence.

SEA-SICKNESS.

DR. T. M. KENDALL (Potton, Beds) writes: All who have travelled on the sea have either felt or witnessed the uncomfortable feeling of sea-sickness, which at times causes great nervous prostration in addition to the distressing gastric symptoms. Many theories have been advanced as to the causation of this retching, but even now little or nothing is known about it. Those who suffer pay little heed to theories, and look rather for something which will prevent their discomfort. During many voyages, long and short, in all sorts of craft, I was a victim, and it was not until I tried a combination of menthol and valerian that I was ever able to enjoy comfort during a sea voyage. Since I have used this remedy the sea has no longer any terrors for me, and even during the fiercest gales I am able to enjoy the pleasures of the table, and feel as comfortable as I am on *terra firma*. My experience also with passengers has been most gratifying, and on voyages to and from Australia with as many as 500 passengers I have been able to prevent any one of them from suffering from sea-sickness. People who have been accustomed to lie prostrate from sea-sickness have, when I gave them this remedy, passed the whole voyage in comfort, and my experience has been that this remedy never fails to alleviate and altogether abolish this dreadful sensation. In most cases one dose is sufficient, and three doses always meet with signal success. The particular form in which I have used this combination is sold under the name of validol.

*** The following particulars with regard to validol are given in the last edition of Martindale and Westcott's *Extra Pharmacopoeia:* "Validol. Dose, 10 to 15 minims (0.6 to 0.9 c.cm.). A speciality said to contain 30 per cent. of menthol in valerianic acid; is a colourless liquid with an agreeable odour and free from burning taste of menthol. Nerve sedative. Useful in sea-sickness."

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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Eight lines and under	0	4	0
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NOTE.—It is against the rules of the Post Office to receive *poste Restante* letters addressed either in initials or numbers.